

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.,)
Plaintiff,) Case No.
vs.) CV 10-03561 WHA
GOOGLE, INC.,)
Defendant.)
_____)

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VIDEOTAPED 30(b)(6) DEPOSITION OF GOOGLE, INC.
DESIGNEE: HIROSHI LOCKHEIMER
Palo Alto, California
Tuesday, December 8, 2015

Reported by:
KELLI COMBS, CSR No. 5908
Job No. 2189227
Pages 1 - 370

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4	4 EXAMINATION PAGE
5 ORACLE AMERICA, INC.,)	5 BY MS. HURST 7, 361
6 Plaintiff,)	6 BY MR. RAMSEY 251
7) Case No.	7
8 vs.) CV 10-03561 WHA	8
9 GOOGLE, INC.,)	9
10 Defendant.)	10 QUESTIONS NOT ANSWERED
11 _____)	11 PAGE LINE
12	12 189 9
13	231 20
14	235 25
15 VIDEOTAPED DEPOSITION OF HIROSHI LOCKHEIMER,	239 19
16 taken on behalf of Defendant, at 601 S. California	14 244 13
17 Street, Suite 100, Palo Alto, California, beginning at	246 25
18 9:50 a.m., on Tuesday, December 8, 2015, before Kelli	15 251 7
19 Combs, Certified Shorthand Reporter No. 7705.	16
20	17
21	18
22	19
23	20
24	21
25	22
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	24
	25
1 APPEARANCES:	1 E X H I B I T S
2 For the Plaintiff:	2 EXHIBITS FOR IDENTIFICATION
3 ORRICK, HERRINGTON & SUTCLIFFE LLP	3 NUMBER PAGE
4 BY: ANNETTE L. HURST, ESQ.	4 Exhibit 5014 Android Developers Terms 151
5 BY: GABRIEL RAMSEY, ESQ.	and Conditions printed
6 GEOFFREY G. MOSS, ESQ. (LA office)	5 December 5, 2015, from
7 ABIGAIL LUBOW, ESQ.	Internet Archive
8 405 Howard Street	6
9 San Francisco, California 94105-2669	Exhibit 5015 Spreadsheet of five pages, 200
10 415.773.4585	7 Bates stamped GOOG-00191479
11 ahurst@orrick.com	8 Exhibit 5016 Slide presentation titled 361
12	"Android OC Quarterly
13 For the Defendant:	9 Review - Q2 2010, July 12,
14 KEKER & VAN NEST LLP	2010," Bates stamped
15 BY: CHRISTA MARTIN ANDERSON, ESQ.	GOOGLE-34-00089029 through
16 633 Battery Street	-89050
17 San Francisco, California 94111	11
18 415.391.5400	12
19 canderson@kvn.com	13 PREVIOUSLY MARKED EXHIBITS
20	14 EXHIBIT PAGE
21 ALSO PRESENT:	15 5003 7
22 Renny Hwang, In-house Counsel for Google	16
23 Ramon Peraza, Video Operator	17
24	18
25	19
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<p>1 Palo Alto, California; Tuesday, December 8, 2015</p> <p>2 9:50 a.m.</p> <p>3 P R O C E E D I N G S</p> <p>4</p> <p>5 THE VIDEOGRAPHER: Good morning. We are</p> <p>6 on the record at 9:50 a.m. on December 8th, 2015.</p> <p>7 This is the videotaped deposition of Google, Inc.</p> <p>8 The deponent is Mr. Hiroshi Lockheimer. My name is</p> <p>9 Ramon Peraza, here with our court reporter, Kelli</p> <p>10 Combs. We're here from Veritext Legal Solutions at</p> <p>11 the request of counsel for the Plaintiff.</p> <p>12 This deposition is being held at</p> <p>13 King & Spalding in Palo Alto. The caption of this</p> <p>14 case is Oracle America, Inc. versus Google, Inc.,</p> <p>15 Case Number CV 10-3561 WHA.</p> <p>16 Please note that audio and video recording</p> <p>17 will take place unless all parties have agreed to go</p> <p>18 off the record. Microphones are sensitive and may</p> <p>19 pick up whispers or private conversations.</p> <p>20 At this time, Counsel, please identify</p> <p>21 yourselves for the record and state whom you</p> <p>22 represent.</p> <p>23 MS. HURST: Annette Hurst from Orrick,</p> <p>24 Herrington & Sutcliffe for Oracle.</p> <p>25 MR. RAMSEY: Gabriel Ramsey with Orrick,</p> <p style="text-align: right;">Page 6</p>	<p>1 Q All right.</p> <p>2 And have you seen this deposition notice</p> <p>3 before?</p> <p>4 A I'm not entirely sure. I'm not sure.</p> <p>5 Q Okay.</p> <p>6 Could you turn to page 7. There's a</p> <p>7 paragraph numbered 2, and it says:</p> <p>8 "A comprehensive description</p> <p>9 of all plans, product roadmaps,</p> <p>10 strategies, functions, markets,</p> <p>11 devices and goods or services now</p> <p>12 or in the future plan to be in any</p> <p>13 way associated with Android and/or</p> <p>14 any part thereof."</p> <p>15 Do you see that?</p> <p>16 A I do see that.</p> <p>17 Q And you understand that you're here today</p> <p>18 to testify on behalf of Google, correct?</p> <p>19 A Yes.</p> <p>20 Q And you understand you're here to testify</p> <p>21 on behalf of Google with respect to that Topic 2</p> <p>22 that I just read to you?</p> <p>23 A I do understand that.</p> <p>24 Q And do you consent to testify on behalf of</p> <p>25 Google with respect to that topic?</p> <p style="text-align: right;">Page 8</p>
<p>1 also for Oracle.</p> <p>2 MR. MOSS: Jeffrey Moss on behalf of</p> <p>3 Oracle.</p> <p>4 MS. LUBOW: Abigail Lubow on behalf of</p> <p>5 Oracle.</p> <p>6 MS. ANDERSON: Christa Anderson,</p> <p>7 Kecker & Van Nest on behalf of Google. With me here</p> <p>8 is the witness, Mr. Lockheimer, and Renny Hwang of</p> <p>9 Google, in-house counsel.</p> <p>10 THE VIDEOGRAPHER: The court reporter may</p> <p>11 now swear in the witness.</p> <p>12 HIROSHI LOCKHEIMER,</p> <p>13 after having been duly sworn, testified as follows:</p> <p>14 ---o0o---</p> <p>15</p> <p>16 EXAMINATION</p> <p>17 BY MS. HURST:</p> <p>18 Q Good morning, Mr. Lockheimer. I'm handing</p> <p>19 you what's been previously marked as Exhibit 5003,</p> <p>20 the Notice of Deposition of Google, Inc.</p> <p>21 And I'll ask you to turn to page 8 of that</p> <p>22 document -- sorry. Not 8. 6.</p> <p>23 Do you see there a heading, "Deposition</p> <p>24 Topics"?</p> <p>25 A I do.</p> <p style="text-align: right;">Page 7</p>	<p>1 A Yes, I do.</p> <p>2 Q And you have a title --</p> <p>3 Are you presently employed by Google?</p> <p>4 A I am.</p> <p>5 Q And do you have a title at Google?</p> <p>6 A I do.</p> <p>7 Q And what is that?</p> <p>8 A Senior Vice President.</p> <p>9 Q And how long have you held that title?</p> <p>10 A About two months now.</p> <p>11 Q And how long have you been with Google?</p> <p>12 A I've been with Google about nine and a</p> <p>13 half, almost 10 years.</p> <p>14 Q And as Senior Vice President, what are</p> <p>15 your duties and responsibilities?</p> <p>16 A I look over Android, Chrome OS and</p> <p>17 Chromecast.</p> <p>18 MS. ANDERSON: Last time, Counsel, just to</p> <p>19 avoid me having to interject statements about</p> <p>20 confidentiality throughout the testimony, we'll</p> <p>21 designate the transcript today highest level</p> <p>22 attorneys' eyes only, and then, of course, go back</p> <p>23 pursuant to the protective order after we get the</p> <p>24 transcript.</p> <p>25 THE VIDEOGRAPHER: Counsel, if you could</p> <p style="text-align: right;">Page 9</p>

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<p>1 bring the microphone a little higher.</p> <p>2 MS. ANDERSON: Sure. Where would you like</p> <p>3 it?</p> <p>4 THE VIDEOGRAPHER: Below the hairline.</p> <p>5 MS. HURST: All right. Ms. Anderson, can</p> <p>6 we stipulate that the witness is being designated on</p> <p>7 Topics 2, 3, 7 and 8?</p> <p>8 MS. ANDERSON: That's correct. Just with</p> <p>9 one clarification. That as to -- I think this is</p> <p>10 the e-mails you have -- these are all obviously</p> <p>11 subject to Google's objections that we served.</p> <p>12 Topic 3, Mr. Lockheimer's testimony</p> <p>13 concerns Google Play Services relating to the</p> <p>14 nature, purpose and operation of Google Play</p> <p>15 Services. Other witnesses are handling other</p> <p>16 portions.</p> <p>17 And as to Topic 7, Mr. Lockheimer is</p> <p>18 discussing the Google procedures related to</p> <p>19 compliance with applicable law as opposed to the</p> <p>20 other portions of this topic.</p> <p>21 And then finally on Topic 8 -- and we've</p> <p>22 had correspondence on this -- intellectual property,</p> <p>23 the parties have agreed they're talking about</p> <p>24 copyright as opposed to any form of intellectual</p> <p>25 property.</p> <p style="text-align: right;">Page 10</p>	<p>1 team. So depends, I guess, on how you define any</p> <p>2 responsibility, but, you know, I've been on the</p> <p>3 Android team since nine and a half, 10 years ago.</p> <p>4 Q All right.</p> <p>5 And approximately what month and year did</p> <p>6 you start at Google?</p> <p>7 A It was April 2006.</p> <p>8 Q And was that after Google had acquired</p> <p>9 Android?</p> <p>10 A It was.</p> <p>11 Q And had you worked in Android prior to the</p> <p>12 acquisition?</p> <p>13 A No.</p> <p>14 Q Had you ever worked with Mr. Rubin before?</p> <p>15 A I have.</p> <p>16 Q In what occasions had you worked with</p> <p>17 Mr. Rubin prior to joining Google?</p> <p>18 A Prior to joining Google, I worked for</p> <p>19 Andy and his company, Danger Research.</p> <p>20 Q And what was the business of Danger</p> <p>21 Research?</p> <p>22 A They were a startup. At the time I was</p> <p>23 there, they were working on various products. It</p> <p>24 was very early on in the -- in the life of the</p> <p>25 startup.</p> <p style="text-align: right;">Page 12</p>
<p>1 MS. HURST: No, we have not agreed to</p> <p>2 that.</p> <p>3 MS. ANDERSON: Well, that is our position.</p> <p>4 That's what we're providing a witness on.</p> <p>5 Anyway, so that, just wanted to make sure</p> <p>6 you had those clarifications.</p> <p>7 MS. HURST: All right. Well, it sounds</p> <p>8 like he's not prepared to testify on Topic 8 because</p> <p>9 we have certainly not limited it to that.</p> <p>10 MS. ANDERSON: We don't agree with your</p> <p>11 statement, but in any event, we're here.</p> <p>12 MS. HURST: As previously created the</p> <p>13 deposition of Mr. Holtzlay, we will announce the</p> <p>14 topic as we are examining the witness on it. We</p> <p>15 have multiple lawyers here to examine on different</p> <p>16 topics, as I informed you in an e-mail a couple of</p> <p>17 weeks ago. So we'll be orderly about it, but there</p> <p>18 will be some switching around.</p> <p>19 BY MS. HURST:</p> <p>20 Q All right.</p> <p>21 Continuing, then, with respect to Topic</p> <p>22 Number 2, Mr. Lockheimer, how long have you had any</p> <p>23 responsibility for Android?</p> <p>24 A Well, I joined Google nine and a half</p> <p>25 years ago, almost 10 years ago, on the Android</p> <p style="text-align: right;">Page 11</p>	<p>1 Q Can you be more specific?</p> <p>2 A They -- at the time I was there, they</p> <p>3 worked on -- they were prototyping a little device</p> <p>4 that could receive coupons from your screen.</p> <p>5 Q Were they working on any phone or phone</p> <p>6 software?</p> <p>7 A Not when I was there, no.</p> <p>8 Q Prior to becoming a Senior Vice President</p> <p>9 two months ago, what was your prior title at Google?</p> <p>10 A Immediately prior to getting the "Senior"</p> <p>11 in my title, I was a Vice President.</p> <p>12 Q And how long did you hold that position?</p> <p>13 A Let's see, I don't remember exactly when</p> <p>14 it was -- when I was promoted to V.P., to Vice</p> <p>15 President, but a few years; two, three years, maybe</p> <p>16 three, four, something like that.</p> <p>17 Q And what title did you hold when you</p> <p>18 joined Google?</p> <p>19 A When I joined Google, I was a -- what's</p> <p>20 called a Technical Program Manager.</p> <p>21 Q All right.</p> <p>22 And between the time you joined as a</p> <p>23 Technical Program Manager and were promoted to the</p> <p>24 title of Vice President, did you hold any other</p> <p>25 titles?</p> <p style="text-align: right;">Page 13</p>

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1 A I did.	1 [REDACTED] 1
2 Q What were they?	2 [REDACTED]
3 [REDACTED]	3 [REDACTED]
4 [REDACTED]	4 [REDACTED]
5 [REDACTED]	5 [REDACTED] 1
6 [REDACTED]	6 [REDACTED]
7 [REDACTED]	7 [REDACTED]
8 [REDACTED]	8 [REDACTED]
9 [REDACTED]	9 [REDACTED]
10 [REDACTED]	10 [REDACTED] 1
11 [REDACTED]	11 [REDACTED]
12 [REDACTED]	12 [REDACTED]
13 [REDACTED]	13 [REDACTED]
14 [REDACTED]	14 [REDACTED]
15 [REDACTED]	15 [REDACTED] 1
16 [REDACTED]	16 [REDACTED]
17 [REDACTED]	17 [REDACTED]
18 [REDACTED]	18 [REDACTED]
19 [REDACTED]	19 [REDACTED]
20 [REDACTED]	20 [REDACTED] 1
21 [REDACTED]	21 [REDACTED]
22 [REDACTED]	22 [REDACTED]
23 [REDACTED]	23 [REDACTED]
24 [REDACTED]	24 [REDACTED]
25 [REDACTED] 1	25 [REDACTED] 1
Page 14	Page 16
1 [REDACTED] 1	1 [REDACTED] 1
2 [REDACTED]	2 BY MS. HURST:
3 [REDACTED]	3 Q What did you do to prepare yourself to
4 [REDACTED]	4 testify for the deposition here today?
5 [REDACTED] 1	5 A Well, two things: Very directly, I met 1
6 [REDACTED]	6 with counsel yesterday, and the other thing, it's
7 [REDACTED]	7 my understanding I've been asked to talk about
8 [REDACTED]	8 Android. I've been working on Android for nine and
9 [REDACTED]	9 a half years, so I would say my whole career is
10 [REDACTED] 1	10 sort of what we're talking about here. 1
11 [REDACTED]	11 Q All right.
12 [REDACTED]	12 Who is responsible for advertising revenue
13 [REDACTED]	13 sharing arrangements associated with Android?
14 [REDACTED]	14 MS. ANDERSON: Objection; form.
15 [REDACTED] 1	15 THE WITNESS: Well, I'm not even familiar 1
16 [REDACTED]	16 if there's a advertising revenue share agreement,
17 [REDACTED]	17 per se, so I don't know how to answer that question.
18 [REDACTED]	18 BY MS. HURST:
19 [REDACTED]	19 Q Okay.
20 [REDACTED] 1	20 [REDACTED] 1
21 [REDACTED]	21 [REDACTED]
22 [REDACTED]	22 [REDACTED]
23 [REDACTED]	23 [REDACTED]
24 [REDACTED]	24 [REDACTED]
25 [REDACTED] 1	25 [REDACTED] 1
Page 15	Page 17

5 (Pages 14 - 17)

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1 [REDACTED] 1	1 it to refer to the same group? 1
2 [REDACTED]	2 A Not really. The Open Handset Alliance
3 [REDACTED]	3 had specific members, if you will. We have a lot
4 [REDACTED]	4 more members now or companies that we work with
5 [REDACTED] 1	5 now, partners. I guess generically we would just 1
6 [REDACTED]	6 call them partners at this point.
7 [REDACTED]	7 Q And what role, if any, have you ever had
8 [REDACTED]	8 with respect to those partners?
9 [REDACTED]	9 MS. ANDERSON: Objection; form.
10 [REDACTED] 1	10 THE WITNESS: Well, depends on the 1
11 [REDACTED]	11 partner.
12 [REDACTED]	12 BY MS. HURST:
13 [REDACTED]	13 Q Well, how many partners, to use your term,
14 [REDACTED]	14 does Google have with respect to Android?
15 [REDACTED] 1	15 A I don't know the exact number. 1
16 [REDACTED]	16 Q Can you approximate?
17 [REDACTED]	17 A Sure, I can try.
18 [REDACTED]	18 Q And what is your best approximation?
19 [REDACTED]	19 A I would guess -- this is -- I've never
20 BY MS. HURST: 1	20 approximated this number before, but I would guess 1
21 Q What is the Open Handset Alliance?	21 it's low 100s.
22 A The Open Handset Alliance was an alliance	22 Q Does Google have any agreement with any of
23 of a number of companies. It was formed in -- I	23 those partners for -- that provides for the sharing
24 think it was 2008 or '7; I don't remember the exact	24 of any type of revenue in connection with their use
25 dates, but it was an alliance of a number of 1	25 of Android? 1
Page 18	Page 20
1 companies: Manufacturers, operators, 1	1 A I believe so, yes. 1
2 commercialization partners, various technology	2 Q Okay.
3 companies sort of promoting the use of -- of	3 What type of revenue sharing agreements
4 Android.	4 does it have?
5 Q Does the Open Handset Alliance still exist 1	5 MS. ANDERSON: Objection; form. 1
6 today?	6 THE WITNESS: Well, for instance, we work
7 MS. ANDERSON: Objection; form.	7 with application developers, and when they sell
8 THE WITNESS: I'm not entirely sure.	8 their applications, they can sell their applications
9 BY MS. HURST:	9 through the Play Store, our application store, and
10 Q What role did the Open Handset Alliance 1	10 obviously we share their revenue with them; we take 1
11 play in Google's strategy for bringing Android to	11 a cut also, but that's one form.
12 market?	12 BY MS. HURST:
13 A The Open Handset Alliance was a way for a	13 Q And is there a general split that you use
14 number of companies to tell the world that they	14 in those agreements of that type of revenue?
15 were behind Android; that they were going to adopt 1	15 A Yes, there is. 1
16 Android, so it was something that really was talked	16 Q And what is that?
17 about a lot in the early days of -- of Android.	17 A I believe it's 70/30.
18 Q And does the Open Handset Alliance	18 Q Who gets which piece?
19 continue to play any role with respect to any	19 A The application developer gets the bigger
20 strategies associated with Android? 1	20 piece, 70 percent. 1
21 A It's hard to say. Speaking for myself	21 Q All right.
22 and Google, it's not something that -- Open Handset	22 Has Google -- does Google now or has it
23 Alliance, that term is not something we use that	23 ever had a practice or a set of agreements whereby
24 often anymore.	24 it would take its 30 percent of the application
25 Q Is there some other term that's replaced 1	25 revenue and pay that over to another party, such as 1
Page 19	Page 21

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<p>1 a carrier? 1</p> <p>2 MS. ANDERSON: Objection; form.</p> <p>3 THE WITNESS: I'm not entirely sure. I</p> <p>4 believe so, but I'm not entirely sure.</p> <p>5 BY MS. HURST: 1</p> <p>6 Q What's your understanding of that, then?</p> <p>7 A My very vague understanding is that in</p> <p>8 some instances, some of that portion that goes to</p> <p>9 Google is shared with certain partners.</p> <p>10 Q Okay. Which partners? 1</p> <p>11 A I don't know.</p> <p>12 Q If you wanted to know the details of those</p> <p>13 arrangements, that is, who are we currently sharing</p> <p>14 application revenue with, who would -- how would you</p> <p>15 find out that information? 1</p> <p>16 A I would probably talk to some people at</p> <p>17 Google.</p> <p>18 Q Which people?</p> <p>19 A The first person I would -- I would go to</p> <p>20 is probably John Gold. 1</p> <p>21 Q And who is Mr. Gold?</p> <p>22 A John is responsible for finance. He</p> <p>23 works in the finance organization at Google.</p> <p>24 Q Do you have any role in dealing with the</p> <p>25 carriers? 1</p> <p style="text-align: right;">Page 22</p>	<p>1 BY MS. HURST: 1</p> <p>2 Q Does it have revenue in it?</p> <p>3 A Unfortunately not. Android is an open</p> <p>4 source operating system that we give away for free,</p> <p>5 so more of a cost center than a profit center. 1</p> <p>6 Q So I just want to make sure. There's a</p> <p>7 P&L for Android, right?</p> <p>8 A Yes.</p> <p>9 Q Have you ever seen that P&L?</p> <p>10 A Yes, I have seen forms of it, yes. 1</p> <p>11 Q And you're telling me there's no revenue</p> <p>12 on that P&L?</p> <p>13 A For Android, we don't charge for Android,</p> <p>14 so there is no revenue there.</p> <p>15 Q Okay. 1</p> <p>16 I just want to make sure we're talking</p> <p>17 about the P&L. I understand you think you don't</p> <p>18 charge for Android, so -- I'm asking about revenue</p> <p>19 lines on the Android P&L.</p> <p>20 You've seen that document, right? 1</p> <p>21 MS. ANDERSON: Objection; form.</p> <p>22 THE WITNESS: I have seen documents that</p> <p>23 have been represented to me as -- as P&Ls. They are</p> <p>24 for Android. What I know is that we give Android</p> <p>25 away for free. We don't charge for Android. That's 1</p> <p style="text-align: right;">Page 24</p>
<p>1 A Well, "dealing with" is a -- is a pretty 1</p> <p>2 vague term. I've -- I've met with carriers, if</p> <p>3 that's what you're asking.</p> <p>4 Q Do you consider carriers to be a class of</p> <p>5 business partners of Google, to use the term as you 1</p> <p>6 used it earlier?</p> <p>7 A Well, the term I used was "partners." I</p> <p>8 never said "business partners." I do consider</p> <p>9 carriers to be partners of ours, yes.</p> <p>10 Q And as the -- 1</p> <p>11 Is it fair to say that you're the head of</p> <p>12 the Android business at Google now?</p> <p>13 MS. ANDERSON: Objection; form.</p> <p>14 THE WITNESS: I'm the head of Android</p> <p>15 Chrome OS and Chromecast, yes. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q Is that the same as the head of the</p> <p>18 Android business, or is that different than the head</p> <p>19 of the Android business?</p> <p>20 A I've never really thought of it that way. 1</p> <p>21 That's not a distinction we really make at Google,</p> <p>22 so I'm not sure how to answer that question.</p> <p>23 Q Well, is there a P&L for Android?</p> <p>24 MS. ANDERSON: Objection; form.</p> <p>25 THE WITNESS: Yes, there is. 1</p> <p style="text-align: right;">Page 23</p>	<p>1 the extent of my knowledge. 1</p> <p>2 BY MS. HURST:</p> <p>3 Q Okay.</p> <p>4 Are there positive revenue lines on any</p> <p>5 Android P&L that you've ever seen? 1</p> <p>6 MS. ANDERSON: Objection; form.</p> <p>7 THE WITNESS: Not that I can remember.</p> <p>8 BY MS. HURST:</p> <p>9 Q Do you have any responsibility for</p> <p>10 preparing the Android P&L? 1</p> <p>11 A When you say "preparing," you mean</p> <p>12 literally entering the numbers into a spreadsheet</p> <p>13 somewhere? Is that what you mean?</p> <p>14 Q Is that how you understand the word</p> <p>15 "preparing"? 1</p> <p>16 A I'm not sure. You're asking the</p> <p>17 question, so I'm just trying to clarify it. I want</p> <p>18 to give you as precise an answer as I can.</p> <p>19 Q Do you have any overall responsibility for</p> <p>20 ensuring the accuracy of the Android P&L? 1</p> <p>21 A Well, the P&L that you're asking about,</p> <p>22 the Android P&L, was shown to me by Finance. I</p> <p>23 assume that the Finance Department is doing their</p> <p>24 job and they are reporting things accurately.</p> <p>25 Q All right. 1</p> <p style="text-align: right;">Page 25</p>

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<p>1 So you don't sit down with them and go 1</p> <p>2 over the P&L and make -- have any role at all in</p> <p>3 making sure it's accurate?</p> <p>4 A I didn't say I don't sit down with them.</p> <p>5 I do sit down with them and talk about a number of 1</p> <p>6 topics. They have shown me the Android P&L from</p> <p>7 time to time. Honestly, that is something that the</p> <p>8 Finance Department spends their time on and they</p> <p>9 update me on -- on what the P&L looks like, but I</p> <p>10 trust that they're doing their job to keep it 1</p> <p>11 accurate.</p> <p>12 Q Who do you report to?</p> <p>13 A I report to Sundar Pichai.</p> <p>14 Q And what's his title?</p> <p>15 A He is the CEO. 1</p> <p>16 Q Of Google?</p> <p>17 A Yes.</p> <p>18 Q Do you ever have to account to him for the</p> <p>19 performance of your business?</p> <p>20 A Performance of business in the sense 1</p> <p>21 that, you know, how our partnership is going, what</p> <p>22 is the latest release of Android, you know, how is</p> <p>23 the technology progressing, things like that, yes.</p> <p>24 Q Any of that ever involve any financial</p> <p>25 discussion of any kind? 1</p> <p style="text-align: right;">Page 26</p>	<p>1 contribution that -- financial contribution that 1</p> <p>2 Android was making to Google's business?</p> <p>3 MS. ANDERSON: Objection; form.</p> <p>4 THE WITNESS: Not that I recall, no.</p> <p>5 BY MS. HURST: 1</p> <p>6 Q Why did Mr. Rubin leave the Android</p> <p>7 business?</p> <p>8 MS. ANDERSON: Objection; form and beyond</p> <p>9 the scope.</p> <p>10 THE WITNESS: Yeah, I think that was a 1</p> <p>11 personal decision. You should -- you should ask</p> <p>12 him.</p> <p>13 BY MS. HURST:</p> <p>14 Q Was he fired?</p> <p>15 MS. ANDERSON: Objection; form, beyond the 1</p> <p>16 scope.</p> <p>17 THE WITNESS: I don't know.</p> <p>18 BY MS. HURST:</p> <p>19 Q What have you heard about that?</p> <p>20 MS. ANDERSON: Objection; form, beyond the 1</p> <p>21 scope.</p> <p>22 I also caution the witness to the extent</p> <p>23 that you're being asked to discuss matters that may</p> <p>24 be subject to privacy issues, you should raise that.</p> <p>25 I'm not aware of that, but it is beyond the scope by 1</p> <p style="text-align: right;">Page 28</p>
<p>1 A Well, with regard to Android, it's pretty 1</p> <p>2 well-known within Google and outside that it's an</p> <p>3 open source operating system that we give away for</p> <p>4 free, so we don't really discuss, you know, the</p> <p>5 fact that it's free that often. 1</p> <p>6 Q Have you ever heard Mr. Rubin say that</p> <p>7 Android is profitable?</p> <p>8 A Not that I'm aware of.</p> <p>9 Q You reported to Mr. Rubin at times during</p> <p>10 your career at Google, true? 1</p> <p>11 A True.</p> <p>12 Q How many years did you report to</p> <p>13 Mr. Rubin?</p> <p>14 A Let's see, when I -- when I joined, I</p> <p>15 didn't report to Andy, Mr. Rubin. I think I 1</p> <p>16 started reporting to him late 2008, early 2009, and</p> <p>17 I reported to him until he left the group, which</p> <p>18 was -- I can't remember exactly. I think it was</p> <p>19 2013, so doing the math, that would be about four</p> <p>20 years. 1</p> <p>21 Q All right.</p> <p>22 During that four years, did you ever hear</p> <p>23 Mr. Rubin say that Android was profitable?</p> <p>24 A Not that I remember.</p> <p>25 Q Never heard him talk about the 1</p> <p style="text-align: right;">Page 27</p>	<p>1 far. 1</p> <p>2 THE WITNESS: Sorry, your question was?</p> <p>3 BY MS. HURST:</p> <p>4 Q What have you heard about whether</p> <p>5 Mr. Rubin was terminated from his position at 1</p> <p>6 Android and any reasons for that?</p> <p>7 MS. ANDERSON: Same objection. Same</p> <p>8 instructions.</p> <p>9 THE WITNESS: I haven't heard, one way or</p> <p>10 the other, whether he was fired or not. Just hasn't 1</p> <p>11 been a topic.</p> <p>12 BY MS. HURST:</p> <p>13 Q You haven't discussed that with anybody at</p> <p>14 all?</p> <p>15 MS. ANDERSON: Same objections. Same 1</p> <p>16 instructions.</p> <p>17 THE WITNESS: I don't think I've ever</p> <p>18 discussed with anyone whether Andy was fired, no.</p> <p>19 BY MS. HURST:</p> <p>20 Q Is it your strategy to lose money? 1</p> <p>21 MS. ANDERSON: Objection; form.</p> <p>22 THE WITNESS: I've never been asked that</p> <p>23 question before. Let me think about that. I</p> <p>24 don't -- you know, my strategy is not necessarily</p> <p>25 about money. My strategy is about building a great 1</p> <p style="text-align: right;">Page 29</p>

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<p>1 operating system and a great ecosystem that goes 1</p> <p>2 along with it and making it available to as many</p> <p>3 people in the world as possible. That's my</p> <p>4 strategy.</p> <p>5 BY MS. HURST: 1</p> <p>6 Q So can you answer the question "yes" or</p> <p>7 "no"? Is it your strategy to lose money?</p> <p>8 A As I mentioned, my strategy is to build a</p> <p>9 great operating system that's deployed widely</p> <p>10 throughout the world, and that's what I spend all 1</p> <p>11 my time thinking about is how to build great</p> <p>12 products, work with our partners to commercialize</p> <p>13 them and delight customers.</p> <p>14 Q Are you able to answer the question "yes"</p> <p>15 or "no"? Is it your strategy to lose money? 1</p> <p>16 A It's just money -- in the context of a</p> <p>17 free operating system, money is just not something</p> <p>18 that is even something that we're thinking about.</p> <p>19 It's a free operating system. We give it away for</p> <p>20 free; it's open source. So I'm having a tough time 1</p> <p>21 saying "yes" or "no" to that because it's just --</p> <p>22 the concept of money is not something we think</p> <p>23 about in the context of Android.</p> <p>24 Q Google is a public company, right?</p> <p>25 A Yes. 1</p> <p style="text-align: right;">Page 30</p>	<p>1 MS. ANDERSON: Objection; form, beyond the 1</p> <p>2 scope.</p> <p>3 THE WITNESS: I am.</p> <p>4 BY MS. HURST:</p> <p>5 Q You expect and hope to make money 1</p> <p>6 associated with that investment, true?</p> <p>7 MS. ANDERSON: Beyond the scope.</p> <p>8 THE WITNESS: I joined Google to build</p> <p>9 great products, so that's the thing that I think</p> <p>10 about the most. I really don't think about or hope 1</p> <p>11 and expect, as you put it, about my shares, one way</p> <p>12 or another. I'm there to build a great operating</p> <p>13 system.</p> <p>14 BY MS. HURST:</p> <p>15 Q How many shares of Google stock do you 1</p> <p>16 own?</p> <p>17 MS. ANDERSON: Beyond the scope.</p> <p>18 THE WITNESS: I actually don't know.</p> <p>19 BY MS. HURST:</p> <p>20 Q Can you approximate? 1</p> <p>21 MS. ANDERSON: Beyond the scope.</p> <p>22 THE WITNESS: No. I would prefer not to.</p> <p>23 I would be guessing.</p> <p>24 BY MS. HURST:</p> <p>25 Q Can you approximate the value of the 1</p> <p style="text-align: right;">Page 32</p>
<p>1 Q It has shareholders? 1</p> <p>2 A Yes.</p> <p>3 Q They expect certain financial performance</p> <p>4 of Google, true?</p> <p>5 MS. ANDERSON: Objection; form, beyond the 1</p> <p>6 scope.</p> <p>7 THE WITNESS: I'm sure every shareholder</p> <p>8 has their own set of expectations. I can't speak</p> <p>9 for all of them.</p> <p>10 BY MS. HURST: 1</p> <p>11 Q Certainly it's a company that Wall Street</p> <p>12 follows, true?</p> <p>13 MS. ANDERSON: Objection; form, beyond the</p> <p>14 scope.</p> <p>15 THE WITNESS: It's a public company. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q You don't know whether there are analysts</p> <p>18 on Wall Street who follow the performance of Google?</p> <p>19 MS. ANDERSON: Objection; form, beyond the</p> <p>20 scope. 1</p> <p>21 THE WITNESS: Google's dealings with</p> <p>22 Wall Street is not something that is a part of my</p> <p>23 job, so I only know what I read in the press.</p> <p>24 BY MS. HURST:</p> <p>25 Q Are you a shareholder of Google? 1</p> <p style="text-align: right;">Page 31</p>	<p>1 shares of Google stock that you presently own? 1</p> <p>2 MS. ANDERSON: Beyond the scope.</p> <p>3 THE WITNESS: That I presently own,</p> <p>4 probably about a million dollars. That's an</p> <p>5 approximation. 1</p> <p>6 BY MS. HURST:</p> <p>7 Q Have you owned other Google stock in the</p> <p>8 past that you've since sold?</p> <p>9 MS. ANDERSON: Beyond the scope.</p> <p>10 THE WITNESS: I have. 1</p> <p>11 BY MS. HURST:</p> <p>12 Q And what's the approximate amount of</p> <p>13 revenue that you've -- or capital gain that you have</p> <p>14 received through the sale of those shares?</p> <p>15 MS. ANDERSON: Beyond the scope. 1</p> <p>16 THE WITNESS: I don't know.</p> <p>17 BY MS. HURST:</p> <p>18 Q Can you approximate?</p> <p>19 MS. ANDERSON: Beyond the scope.</p> <p>20 THE WITNESS: A few million dollars. 1</p> <p>21 BY MS. HURST:</p> <p>22 Q More than 1 and less than 10?</p> <p>23 MS. ANDERSON: Beyond the scope.</p> <p>24 THE WITNESS: More than 1. I don't know</p> <p>25 less than 1. I... 1</p> <p style="text-align: right;">Page 33</p>

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<p>1 I have never done that math. 1</p> <p>2 BY MS. HURST:</p> <p>3 Q And you're aware, both in connection with</p> <p>4 having sold Google shares and currently being a</p> <p>5 Google shareholder, that Google is a profitable 1</p> <p>6 company, true?</p> <p>7 MS. ANDERSON: Beyond the scope.</p> <p>8 THE WITNESS: I believe so, yeah.</p> <p>9 BY MS. HURST:</p> <p>10 Q And Google has strategies for earning 1</p> <p>11 profit, true?</p> <p>12 MS. ANDERSON: Beyond the scope.</p> <p>13 THE WITNESS: I would assume so, yes.</p> <p>14 BY MS. HURST:</p> <p>15 Q And one of its strategies for earning 1</p> <p>16 profit involves Android; is that right?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: Not -- no, I don't think so.</p> <p>19 I mean, we give away Android for free, so I don't</p> <p>20 know how we would make a profit from giving 1</p> <p>21 something away for free.</p> <p>22 BY MS. HURST:</p> <p>23 Q So when Eric Schmidt declared, "Don't</p> <p>24 worry, Android is profitable," he just -- he was not</p> <p>25 telling the truth when he was making a statement to 1</p> <p style="text-align: right;">Page 34</p>	<p>1 that you just can't even accept it for purposes of 1</p> <p>2 answering whether you agree or disagree with it?</p> <p>3 MS. ANDERSON: Objection; form.</p> <p>4 Which question do you want him to answer?</p> <p>5 There's two questions. 1</p> <p>6 MS. HURST: It's all one question.</p> <p>7 MS. ANDERSON: Okay. Can we have that</p> <p>8 read back, please.</p> <p>9 (Record read as follows:</p> <p>10 "Q Are you unable to accept 1</p> <p>11 the truth of that assumption for</p> <p>12 purpose of answering the</p> <p>13 question? Is that so far out of</p> <p>14 the realm of possibility that</p> <p>15 Mr. Schmidt made a statement 1</p> <p>16 that you just can't accept it</p> <p>17 for purposes of answering</p> <p>18 whether you agree or disagree</p> <p>19 with it?")</p> <p>20 MS. ANDERSON: Objection; form. 1</p> <p>21 THE WITNESS: If your question is whether</p> <p>22 Eric Schmidt made that statement or not, I have no</p> <p>23 idea.</p> <p>24 BY MS. HURST:</p> <p>25 Q I'm asking you to assume he did; that 1</p> <p style="text-align: right;">Page 36</p>
<p>1 the markets about Google, a public company? 1</p> <p>2 MS. ANDERSON: Objection; form.</p> <p>3 THE WITNESS: I actually don't know that</p> <p>4 he's made that statement. I have never heard him</p> <p>5 make that statement personally. 1</p> <p>6 BY MS. HURST:</p> <p>7 Q And when Andy Rubin said, "Don't worry,</p> <p>8 Android's profitable," was he not telling the truth?</p> <p>9 MS. ANDERSON: Objection; form.</p> <p>10 THE WITNESS: I'm not sure if Andy made 1</p> <p>11 that statement. I've never heard him say that.</p> <p>12 BY MS. HURST:</p> <p>13 Q Well, let me just ask you: I want you to</p> <p>14 assume Mr. Schmidt assured the market that Android</p> <p>15 would be profitable. 1</p> <p>16 Do you disagree with that?</p> <p>17 MS. ANDERSON: Objection; form. It's also</p> <p>18 beyond the scope.</p> <p>19 THE WITNESS: Again, I don't know that</p> <p>20 Eric or anyone has made that type of statement. 1</p> <p>21 BY MS. HURST:</p> <p>22 Q Are you unable to accept the truth of that</p> <p>23 assumption for purpose of answering the question?</p> <p>24 Is that so far out of the realm of possibility that</p> <p>25 Mr. Schmidt might have made such a statement for you 1</p> <p style="text-align: right;">Page 35</p>	<p>1 Mr. Schmidt made a statement to the effect of 1</p> <p>2 "Don't" -- public statement, "Don't worry, Android's</p> <p>3 profitable. Of course, we're making money on</p> <p>4 Android."</p> <p>5 Now, tell me, do you agree or disagree 1</p> <p>6 with that?</p> <p>7 MS. ANDERSON: Objection; form.</p> <p>8 THE WITNESS: I guess it depends on -- on</p> <p>9 the broader context of -- of what the statement</p> <p>10 involved, you know, what -- what the other parts of 1</p> <p>11 the statement, whatever they were; if I'm supposed</p> <p>12 to assume that he made the statement, I guess it</p> <p>13 depends on what else he was saying or what he was</p> <p>14 talking about.</p> <p>15 But when -- when talking about Android 1</p> <p>16 specifically from my perspective, what I know is</p> <p>17 that Android, the operating system, AOSP, as we call</p> <p>18 it, is a free operating system that we don't charge</p> <p>19 for.</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Android is also an ecosystem, right?</p> <p>22 MS. ANDERSON: Objection; form.</p> <p>23 THE WITNESS: The way I think about it is</p> <p>24 Android is an operating system. There is an</p> <p>25 ecosystem associated with it, but Android is an 1</p> <p style="text-align: right;">Page 37</p>

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<p>1 operating system. 1</p> <p>2 BY MS. HURST:</p> <p>3 Q You've used the term "ecosystem" and the</p> <p>4 need to keep a healthy ecosystem several times</p> <p>5 today. 1</p> <p>6 What do you mean by that?</p> <p>7 A Well, there are a number of different --</p> <p>8 the context matters, I guess. In our previous</p> <p>9 conversation here, I believe we were talking about</p> <p>10 the application ecosystem and Google Play, 1</p> <p>11 specifically.</p> <p>12 Q Well, there are others in the Android</p> <p>13 ecosystem, right, not just application developers?</p> <p>14 A Well, you were asking that I mentioned</p> <p>15 the word "ecosystem" before. I'm just telling you 1</p> <p>16 that's -- that's the context that I was mentioning</p> <p>17 it in.</p> <p>18 Q All right.</p> <p>19 Well, who are all the types of business</p> <p>20 partners that are in the Android ecosystem? 1</p> <p>21 A Sure. There are a number of different</p> <p>22 kinds of partners: Operators, for instance,</p> <p>23 application developers, which we talked about,</p> <p>24 hardware manufacturers or OEMs. There are also</p> <p>25 commercialization partners, technology providers, 1</p> <p style="text-align: right;">Page 38</p>	<p>1 THE WITNESS: Well, there is no one way to 1</p> <p>2 do anything on Android. It's kind of the way</p> <p>3 Android is built. It's customizable, so it really</p> <p>4 depends on specific devices.</p> <p>5 BY MS. HURST: 1</p> <p>6 Q Okay.</p> <p>7 So then let's go with, you know, some</p> <p>8 Samsung, you know, device that -- smartphone device</p> <p>9 that uses Android. What's the current version of a</p> <p>10 Samsung device using Android? 1</p> <p>11 MS. ANDERSON: Objection; form, beyond the</p> <p>12 scope.</p> <p>13 THE WITNESS: Yeah, it's hard to answer</p> <p>14 that. Samsung has many, many different devices out</p> <p>15 in the market today, so I couldn't give you one 1</p> <p>16 answer to that.</p> <p>17 BY MS. HURST:</p> <p>18 Q Do you have an Android phone with you here</p> <p>19 today that is your personal phone?</p> <p>20 A I do have an Android phone in this 1</p> <p>21 building, yes.</p> <p>22 Q Okay.</p> <p>23 And what kind of phone is it?</p> <p>24 A It's an Android phone.</p> <p>25 Q Right. But manufactured by who? 1</p> <p style="text-align: right;">Page 40</p>
<p>1 and I'm sure there are others that I'm forgetting 1</p> <p>2 about at the moment, but those are the ones that</p> <p>3 come to mind.</p> <p>4 Q And when you say "operators," you mean</p> <p>5 wireless carriers? 1</p> <p>6 A Correct.</p> <p>7 Q Who amongst that ecosystem decides what</p> <p>8 search provider will be used for Phone-top Search?</p> <p>9 MS. ANDERSON: Objection; form.</p> <p>10 THE WITNESS: What is Phone-top Search? 1</p> <p>11 BY MS. HURST:</p> <p>12 Q So, you know, when you have a smartphone</p> <p>13 and you swipe down on the main screen to make a</p> <p>14 search, are you familiar with that?</p> <p>15 MS. ANDERSON: Objection; form. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q You're not in any application.</p> <p>18 A Swiping down, no, I'm not familiar.</p> <p>19 Q Well, I'm -- you know, shame on me, I'm an</p> <p>20 iOS user. Maybe there's a different way of doing it 1</p> <p>21 in Android.</p> <p>22 You're not in any application, you want to</p> <p>23 make a search. How do you do that in the Android --</p> <p>24 in an Android device?</p> <p>25 MS. ANDERSON: Objection; form. 1</p> <p style="text-align: right;">Page 39</p>	<p>1 A The one that I'm using right now is 1</p> <p>2 manufactured by Huawei.</p> <p>3 Q And what's it called?</p> <p>4 A It's the Nexus 6P.</p> <p>5 Q So that's the one that Google sells, 1</p> <p>6 right?</p> <p>7 MS. ANDERSON: Objection; form, beyond the</p> <p>8 scope.</p> <p>9 THE WITNESS: It's one of the phones</p> <p>10 that -- we have a store called the Google Store 1</p> <p>11 where we sell phones from. That's one of the phones</p> <p>12 that's sold there, yes.</p> <p>13 BY MS. HURST:</p> <p>14 Q Okay.</p> <p>15 So if you're not in any application and 1</p> <p>16 you want to engage in a Web search using a phone,</p> <p>17 what's the mechanism for doing so?</p> <p>18 A I'm sorry, can you repeat that question.</p> <p>19 Q Yeah.</p> <p>20 If you don't have any application open, 1</p> <p>21 you're just on the main screen of your phone and you</p> <p>22 want to engage in a Web search, what's the most</p> <p>23 efficient, simplest and easiest way of going about</p> <p>24 doing that?</p> <p>25 MS. ANDERSON: Objection; beyond the 1</p> <p style="text-align: right;">Page 41</p>

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<p>1 scope. 1</p> <p>2 THE WITNESS: Depends on how you want to</p> <p>3 do it. There's multiple ways of doing it.</p> <p>4 BY MS. HURST:</p> <p>5 Q Using your hand as opposed to your voice 1</p> <p>6 and making gestures with the phone, in order to --</p> <p>7 with the fewest number of steps, acquire a search</p> <p>8 bar that will allow you to enter data to cause there</p> <p>9 to be a search, what is the mechanism that you most</p> <p>10 often use with your Nexus phone in order to 1</p> <p>11 accomplish that?</p> <p>12 MS. ANDERSON: Objection; form, beyond the</p> <p>13 scope.</p> <p>14 THE WITNESS: The way I do searches from</p> <p>15 the home screen if I'm not using my voice, is to tap 1</p> <p>16 on the widget.</p> <p>17 BY MS. HURST:</p> <p>18 Q So you call it the home screen?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 THE WITNESS: I believe the screen that 1</p> <p>21 we're talking about, since you mentioned you're an</p> <p>22 iOS user, I'm trying to translate your terminology</p> <p>23 into mine, but what I mean by "home screen" is the</p> <p>24 screen that appears when you press the "Home"</p> <p>25 button. 1</p> <p style="text-align: right;">Page 42</p>	<p>1 the scope. 1</p> <p>2 THE WITNESS: Who decides whether there'll</p> <p>3 be a default search provider?</p> <p>4 BY MS. HURST:</p> <p>5 Q Yes. 1</p> <p>6 A I'm not sure.</p> <p>7 Q Is it your strategy for Android to have</p> <p>8 Google be the default search provider?</p> <p>9 MS. ANDERSON: Objection; form.</p> <p>10 THE WITNESS: For Android as a whole, I 1</p> <p>11 wouldn't say that's my strategy, no.</p> <p>12 BY MS. HURST:</p> <p>13 Q Well, whether you would personally say</p> <p>14 it's your strategy, I'm asking about Google's</p> <p>15 strategy. 1</p> <p>16 MS. ANDERSON: Objection; form.</p> <p>17 BY MS. HURST:</p> <p>18 Q Is it Google's strategy for Android to</p> <p>19 have Google be the default search provider?</p> <p>20 MS. ANDERSON: Objection; form. 1</p> <p>21 THE WITNESS: I don't think I would use</p> <p>22 the word "strategy," no.</p> <p>23 BY MS. HURST:</p> <p>24 Q Well, what word would you use?</p> <p>25 A I think Google's hope is that these 1</p> <p style="text-align: right;">Page 44</p>
<p>1 BY MS. HURST: 1</p> <p>2 Q Or when you turn the phone on for the</p> <p>3 first time?</p> <p>4 MS. ANDERSON: Objection; form, beyond the</p> <p>5 scope. 1</p> <p>6 THE WITNESS: Correct. The home screen</p> <p>7 does appear when you first turn on the phone.</p> <p>8 BY MS. HURST:</p> <p>9 Q Without opening any application, is there</p> <p>10 a means of accessing search capability from the home 1</p> <p>11 screen?</p> <p>12 MS. ANDERSON: Beyond the scope.</p> <p>13 THE WITNESS: Well, search is implemented</p> <p>14 as an application, so no, there is no way to do a</p> <p>15 search without applications. 1</p> <p>16 MS. ANDERSON: I neglected to mention at</p> <p>17 the beginning that I want to put on the record for</p> <p>18 all these depositions today of the different topics, the</p> <p>19 witness does reserve the right to read and sign for</p> <p>20 30 days. I just want to make sure that's on the 1</p> <p>21 record for each topic today.</p> <p>22 BY MS. HURST:</p> <p>23 Q Who amongst the Android ecosystem decides</p> <p>24 whether there will be a default search provider?</p> <p>25 MS. ANDERSON: Objection; form and beyond 1</p> <p style="text-align: right;">Page 43</p>	<p>1 manufacturers or operators or whoever it is that's 1</p> <p>2 responsible for bringing these devices to market</p> <p>3 would choose Google, but ultimately it's their</p> <p>4 choice.</p> <p>5 Q It's certainly your goal that they choose 1</p> <p>6 Google as a default search provider, isn't it?</p> <p>7 MS. ANDERSON: Objection; beyond the</p> <p>8 scope.</p> <p>9 THE WITNESS: I don't think so, no. From</p> <p>10 the Android perspective, we are building an 1</p> <p>11 operating system that's open source that isn't tied</p> <p>12 to any specific company in any way.</p> <p>13 BY MS. HURST:</p> <p>14 Q So it's not --</p> <p>15 I just want to be clear; it is not your 1</p> <p>16 goal that Google be the default search provider in</p> <p>17 connection with the Android platform?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: The goal of the Android team 1</p> <p>21 is to build an operating system that our partners</p> <p>22 are happy to adopt and deploy and customize and</p> <p>23 build their own products on top of, that also</p> <p>24 delight customers. That's our goal.</p> <p>25</p> <p style="text-align: right;">Page 45</p>

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<p>1 BY MS. HURST: 1</p> <p>2 Q Okay.</p> <p>3 I'm asking about having Google as the</p> <p>4 default search provider in connection with the</p> <p>5 Android platform. "Yes" or "no," is that one of 1</p> <p>6 your goals?</p> <p>7 MS. ANDERSON: Objection; form.</p> <p>8 THE WITNESS: And you're talking about</p> <p>9 Android right now?</p> <p>10 BY MS. HURST: 1</p> <p>11 Q The "Android platform" is the word -- the</p> <p>12 phrase that I used.</p> <p>13 A For the Android platform, which, to me, I</p> <p>14 interpret as the Android operating system -- AOSP</p> <p>15 is another term for it -- the goal there, as I 1</p> <p>16 mentioned, is to build a operating system that's</p> <p>17 used by manufacturers and operators, and it's not</p> <p>18 tied to any specific company, including Google.</p> <p>19 Q Okay.</p> <p>20 "Yes" or "no," is it one of your goals for 1</p> <p>21 the Android platform to have Google be the default</p> <p>22 search provider?</p> <p>23 MS. ANDERSON: Objection; form.</p> <p>24 THE WITNESS: Asked that way when you're</p> <p>25 talking about the Android platform or AOSP, tying or 1</p> <p style="text-align: right;">Page 46</p>	<p>1 right? 1</p> <p>2 MS. ANDERSON: Same objection.</p> <p>3 THE WITNESS: I believe that's how the</p> <p>4 company makes some of its money, yes.</p> <p>5 BY MS. HURST: 1</p> <p>6 Q Makes a lot of its money, isn't it?</p> <p>7 MS. ANDERSON: Same objection.</p> <p>8 THE WITNESS: I actually don't know.</p> <p>9 BY MS. HURST:</p> <p>10 Q Well, how else does it make money? 1</p> <p>11 A I don't know. There may be other ways.</p> <p>12 I'm not responsible for Search or advertising.</p> <p>13 Q Okay.</p> <p>14 I just want to be clear. You're a Senior</p> <p>15 Vice President of Google, and you don't know how the 1</p> <p>16 company makes money; is that right?</p> <p>17 MS. ANDERSON: Objection; form and beyond</p> <p>18 the scope.</p> <p>19 THE WITNESS: That's not what I said, no.</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Okay.</p> <p>22 How does Google make money,</p> <p>23 Mr. Lockheimer?</p> <p>24 MS. ANDERSON: Objection; beyond the</p> <p>25 scope. 1</p> <p style="text-align: right;">Page 48</p>
<p>1 having any relation with any company, including 1</p> <p>2 Google, is not a goal of Android.</p> <p>3 BY MS. HURST:</p> <p>4 Q I'm asking whether it's a goal of Google.</p> <p>5 You're here testifying on behalf of Google 1</p> <p>6 today. You understand that, right?</p> <p>7 A I do understand that I'm here to testify</p> <p>8 on behalf of Google today, yes.</p> <p>9 Q And Google makes money -- some of the ways</p> <p>10 that it makes money is by selling advertising in 1</p> <p>11 connection with searches, right?</p> <p>12 MS. ANDERSON: Objection; beyond the</p> <p>13 scope.</p> <p>14 THE WITNESS: That's not my area of</p> <p>15 responsibility. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q I just want to be clear. You don't know</p> <p>18 whether Google makes money selling advertising on</p> <p>19 searches? Is that your testimony?</p> <p>20 MS. ANDERSON: Same objection. 1</p> <p>21 THE WITNESS: That's not what I said, no.</p> <p>22 BY MS. HURST:</p> <p>23 Q All right.</p> <p>24 So you know that Google makes money</p> <p>25 selling advertising in connection with searches, 1</p> <p style="text-align: right;">Page 47</p>	<p>1 THE WITNESS: I believe the company makes 1</p> <p>2 money on -- in a number of ways.</p> <p>3 BY MS. HURST:</p> <p>4 Q How?</p> <p>5 MS. ANDERSON: Objection; beyond the 1</p> <p>6 scope.</p> <p>7 THE WITNESS: I don't know all of them.</p> <p>8 But one of them, I do believe, involves advertising,</p> <p>9 yes.</p> <p>10 BY MS. HURST: 1</p> <p>11 Q Well, how else does it make money?</p> <p>12 MS. ANDERSON: Objection; beyond the</p> <p>13 scope.</p> <p>14 THE WITNESS: I don't know.</p> <p>15 BY MS. HURST: 1</p> <p>16 Q Does Google expect to have any economic</p> <p>17 benefit of any kind associated with Android, whether</p> <p>18 directly or indirectly?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 THE WITNESS: I believe Google's desire is 1</p> <p>21 for people to be able to access the Internet using</p> <p>22 their phones so that they can reach Google's</p> <p>23 services.</p> <p>24 BY MS. HURST:</p> <p>25 Q And how does that result in economic 1</p> <p style="text-align: right;">Page 49</p>

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<p>1 benefit for Google? 1</p> <p>2 MS. ANDERSON: Objection; form.</p> <p>3 THE WITNESS: Well, I believe if people</p> <p>4 are using Google's services, there's a chance that</p> <p>5 they may -- when I say "they," I mean end users -- 1</p> <p>6 may do things that would cause profits or revenue</p> <p>7 for -- for Google as opposed to, of course, if</p> <p>8 they're not able to get to Google at all, then</p> <p>9 obviously we're not present, so that would be not a</p> <p>10 great thing for Google. 1</p> <p>11 BY MS. HURST:</p> <p>12 Q What strategies does Google pursue in</p> <p>13 order to acquire economic benefit, either directly</p> <p>14 or indirectly, from Android?</p> <p>15 MS. ANDERSON: Objection; form. 1</p> <p>16 THE WITNESS: Sorry, if you could ask me</p> <p>17 that question again. What...</p> <p>18 BY MS. HURST:</p> <p>19 Q What strategies does Google pursue in</p> <p>20 order to acquire economic benefit, either directly 1</p> <p>21 or indirectly, from Android?</p> <p>22 A What strategies. Well, I think it's --</p> <p>23 it's what I just mentioned, which is it's</p> <p>24 beneficial for Google if end users are able to</p> <p>25 access Google. 1</p> <p style="text-align: right;">Page 50</p>	<p>1 there are about 1.4 billion devices, Android active 1</p> <p>2 devices, but that's not the same thing as them</p> <p>3 accessing the Internet.</p> <p>4 BY MS. HURST:</p> <p>5 Q Do you have a plan to get to the next 1</p> <p>6 billion?</p> <p>7 MS. ANDERSON: Objection; form, beyond the</p> <p>8 scope.</p> <p>9 THE WITNESS: When you say "the next</p> <p>10 billion," are you referring to a specific thing? 1</p> <p>11 BY MS. HURST:</p> <p>12 Q Well, we were just talking about active</p> <p>13 Android users, right?</p> <p>14 MS. ANDERSON: Objection; form, beyond the</p> <p>15 scope. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q Do you remember that question and answer?</p> <p>18 MS. ANDERSON: Form, beyond the scope.</p> <p>19 THE WITNESS: I do remember you asking me</p> <p>20 how many active Android devices there were in the 1</p> <p>21 world, yes.</p> <p>22 BY MS. HURST:</p> <p>23 Q And you said 1.4 billion, right?</p> <p>24 MS. ANDERSON: Same objections.</p> <p>25 THE WITNESS: I said there are 1. -- 1</p> <p style="text-align: right;">Page 52</p>
<p>1 Q And how does Android play a role in that? 1</p> <p>2 A Well, my belief is Android represents one</p> <p>3 way, not the only, but one way in which people can</p> <p>4 access Google for the Internet at large.</p> <p>5 Q Well, how many people access -- can access 1</p> <p>6 the Internet using Android?</p> <p>7 MS. ANDERSON: Objection; form, beyond the</p> <p>8 scope.</p> <p>9 THE WITNESS: I don't know.</p> <p>10 BY MS. HURST: 1</p> <p>11 Q It's about a billion and a half and</p> <p>12 counting, right?</p> <p>13 MS. ANDERSON: Same objections.</p> <p>14 THE WITNESS: I don't know.</p> <p>15 BY MS. HURST: 1</p> <p>16 Q Can you approximate how many Android</p> <p>17 devices are currently in active use?</p> <p>18 MS. ANDERSON: Same objections.</p> <p>19 THE WITNESS: I can.</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Okay. How many?</p> <p>22 MS. ANDERSON: Same objections.</p> <p>23 THE WITNESS: If your question is how many</p> <p>24 active Android devices are there, which is different</p> <p>25 from how many people are accessing the Internet, 1</p> <p style="text-align: right;">Page 51</p>	<p>1 approximately 1.4 billion Android -- active Android 1</p> <p>2 devices in the world.</p> <p>3 BY MS. HURST:</p> <p>4 Q And do you have a plan to get to the next</p> <p>5 billion? 1</p> <p>6 MS. ANDERSON: Same objections.</p> <p>7 THE WITNESS: We're always planning for</p> <p>8 more growth to get to more customers.</p> <p>9 BY MS. HURST:</p> <p>10 Q What strategies do you intend to employ in 1</p> <p>11 order to get to the next billion active Android</p> <p>12 users?</p> <p>13 MS. ANDERSON: Objection; form.</p> <p>14 THE WITNESS: Again, I don't know if</p> <p>15 you're referring to a specific project right now 1</p> <p>16 when you say "the next billion," but, in general,</p> <p>17 our strategy has always been to build products that</p> <p>18 customers like, and if we are able to delight</p> <p>19 customers, then our belief is more customers will</p> <p>20 use our products, so it's really focused on the end 1</p> <p>21 user and the -- and their experience.</p> <p>22 BY MS. HURST:</p> <p>23 Q Is that a complete statement of all</p> <p>24 present strategies at Google for acquiring your next</p> <p>25 billion active Android users? 1</p> <p style="text-align: right;">Page 53</p>

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<p>1 MS. ANDERSON: Objection; form. 1</p> <p>2 THE WITNESS: I think the fundamental way</p> <p>3 in which products succeed in the market is by being</p> <p>4 great products, and so that is absolutely something</p> <p>5 we're focused on. 1</p> <p>6 BY MS. HURST:</p> <p>7 Q And is that a complete statement of all</p> <p>8 present strategies at Google for acquiring your next</p> <p>9 billion active Android users?</p> <p>10 MS. ANDERSON: Objection; form. 1</p> <p>11 THE WITNESS: That's one of the ways in</p> <p>12 which we're focused on getting to more customers.</p> <p>13 BY MS. HURST:</p> <p>14 Q And what are all of the other strategies</p> <p>15 that you presently intend to employ in order to 1</p> <p>16 acquire your next billion active Android users?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: You keep on mentioning "the</p> <p>19 next billion." So I don't know if you literally</p> <p>20 mean 1 billion people or if you're using that as 1</p> <p>21 sort of a proxy for more users. Can you clarify?</p> <p>22 BY MS. HURST:</p> <p>23 Q Well, hasn't Google announced that it</p> <p>24 hopes to acquire another billion active Android</p> <p>25 users? 1</p> <p style="text-align: right;">Page 54</p>	<p>1 A Well, it's not my area of responsibility, 1</p> <p>2 so I would be guessing somewhat here, but I think</p> <p>3 it means figuring out for the search team to figure</p> <p>4 out how to make searches on mobile more</p> <p>5 monetizable; I guess that's what it means. 1</p> <p>6 Q What's an OKR at Google?</p> <p>7 A OKR stands for objectives and key</p> <p>8 results.</p> <p>9 Q And is that some kind of a business</p> <p>10 planning process? 1</p> <p>11 A Yeah, you could say that.</p> <p>12 Q Do you have any responsibility for</p> <p>13 preparing or delivering any OKRs?</p> <p>14 A All employees do, yes.</p> <p>15 Q And do you have ultimate responsibility 1</p> <p>16 for the OKRs for Android?</p> <p>17 A Well, considering I'm responsible for</p> <p>18 Android, one of the -- one of the areas that I'm</p> <p>19 responsible for is Android. Yes, I guess you could</p> <p>20 say that. 1</p> <p>21 Q Have you ever prepared an OKR for the</p> <p>22 overall Android business?</p> <p>23 A Well, when you say "Android business," I</p> <p>24 don't know if you're specifically referring to</p> <p>25 business elements which you and I discussed 1</p> <p style="text-align: right;">Page 56</p>
<p>1 A I don't know. 1</p> <p>2 MS. HURST: All right. We've been going</p> <p>3 for about an hour. Let's take a break.</p> <p>4 THE VIDEOGRAPHER: We are off the record</p> <p>5 at 10:47 a.m. 1</p> <p>6 (Recess taken.)</p> <p>7 THE VIDEOGRAPHER: We are back on the</p> <p>8 record at 11:03 a.m.</p> <p>9 BY MS. HURST:</p> <p>10 Q Mr. Lockheimer, have you ever heard anyone 1</p> <p>11 use the word "monetize" in connection with Android</p> <p>12 at Google?</p> <p>13 A I've heard -- I've heard of the word</p> <p>14 "monetize." I'm just thinking in connection with</p> <p>15 Android, I'm not sure. 1</p> <p>16 Q Have you ever heard of any plan or</p> <p>17 strategy or market for monetizing mobile search</p> <p>18 associated with Android?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 THE WITNESS: Monetizing mobile search, 1</p> <p>21 have I ever heard of that? I think I've heard of</p> <p>22 that phrase.</p> <p>23 BY MS. HURST:</p> <p>24 Q And what do you understand it to mean at</p> <p>25 Google? 1</p> <p style="text-align: right;">Page 55</p>	<p>1 earlier. It's kind of a confusing term that you're 1</p> <p>2 using for me, but Android overall, there are many</p> <p>3 OKRs that many people are involved in -- in</p> <p>4 creating and delivering.</p> <p>5 Q How does Google earn money, either 1</p> <p>6 directly or indirectly, associated with Android?</p> <p>7 MS. ANDERSON: Objection; form.</p> <p>8 THE WITNESS: Well, let's see. I think</p> <p>9 there are two questions, directly and indirectly.</p> <p>10 So let's -- let's tackle "directly" first. I'm not 1</p> <p>11 familiar with any way in which Android is directly</p> <p>12 monetized. As I mentioned earlier, Android is a</p> <p>13 free operating system that we give away for free.</p> <p>14 It's open sourced, and there is no price associated</p> <p>15 with -- with Android. In other words, if a 1</p> <p>16 manufacturer or an operator wants to use Android,</p> <p>17 they don't have to pay Google for the Android</p> <p>18 product.</p> <p>19 Your second question in terms of</p> <p>20 "indirectly," I think this is what we were touching 1</p> <p>21 upon a little earlier. In general, if more people</p> <p>22 are on the Internet, that's a good thing for Google,</p> <p>23 and so I guess you could say indirectly in the sense</p> <p>24 that if Android users are on the Internet, there is</p> <p>25 a possibility that they will also use Google. 1</p> <p style="text-align: right;">Page 57</p>

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<p>1 BY MS. HURST: 1</p> <p>2 Q Well, it's your plan that -- to make it</p> <p>3 more than a possibility if you can; isn't that true?</p> <p>4 A Our goal from the Android perspective is</p> <p>5 to provide great end customer user experience and 1</p> <p>6 provide functionality and tools that customers are</p> <p>7 desiring, and hopefully as part of doing that,</p> <p>8 they'll end up using Google's products, but it's</p> <p>9 ultimately the customer's choice.</p> <p>10 Q Let me just make sure I understand. You 1</p> <p>11 know you're testifying here today on behalf of all</p> <p>12 of Google, right?</p> <p>13 MS. ANDERSON: Objection; form.</p> <p>14 THE WITNESS: I understand that I'm</p> <p>15 testifying for Google, yes. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q And you consented to testify on behalf of</p> <p>18 all of Google, right?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 THE WITNESS: I guess I don't understand 1</p> <p>21 the distinction between all of Google and not all of</p> <p>22 Google; you seem to be making a distinction.</p> <p>23 BY MS. HURST:</p> <p>24 Q Well, you keep telling me about things</p> <p>25 from the perspective of Android, right? Several 1</p> <p style="text-align: right;">Page 58</p>	<p>1 So please give me a comprehensive 1</p> <p>2 description of all plans of Google, now or in the</p> <p>3 future, in any way associated with Android or any</p> <p>4 part thereof.</p> <p>5 MS. ANDERSON: Objection; form. 1</p> <p>6 THE WITNESS: All plans of Google related</p> <p>7 to Android, was that your question?</p> <p>8 BY MS. HURST:</p> <p>9 Q Yes.</p> <p>10 A Okay. I don't know if I can enumerate 1</p> <p>11 every single thing. Google, as you probably know,</p> <p>12 is a pretty big company, so I can't read the minds</p> <p>13 of all 50- or 60,000 employees and know all of</p> <p>14 their plans, but I'm happy to talk about the plans</p> <p>15 that I'm aware of. 1</p> <p>16 Q Is there any kind of business planning</p> <p>17 strategy process at Google?</p> <p>18 MS. ANDERSON: Objection; form.</p> <p>19 THE WITNESS: Business planning process?</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Yeah.</p> <p>22 A I think -- I can't speak for other teams.</p> <p>23 I can certainly speak for my team. We all probably</p> <p>24 do it in slightly different ways because we're all</p> <p>25 in different businesses and different areas of 1</p> <p style="text-align: right;">Page 60</p>
<p>1 times you've said "from the perspective of Android." 1</p> <p>2 Do you remember that testimony?</p> <p>3 MS. ANDERSON: Objection; form.</p> <p>4 THE WITNESS: Well, there have been many</p> <p>5 questions and answers. I'm just clarifying the 1</p> <p>6 questions that you're asking me since you're talking</p> <p>7 about Android. I'm just clarifying that I am, in</p> <p>8 fact, talking about Android.</p> <p>9 BY MS. HURST:</p> <p>10 Q Okay. 1</p> <p>11 I'm asking you, do you understand that</p> <p>12 you're here to testify today on behalf of the entire</p> <p>13 business of Google, not just one little piece of it?</p> <p>14 MS. ANDERSON: Objection; form.</p> <p>15 THE WITNESS: I understand that I'm here 1</p> <p>16 for Google, yes.</p> <p>17 BY MS. HURST:</p> <p>18 Q All right.</p> <p>19 And you agree to testify on behalf of all</p> <p>20 of Google, right? 1</p> <p>21 MS. ANDERSON: Objection; form.</p> <p>22 THE WITNESS: Yes, I've agreed to testify</p> <p>23 for Google, yes.</p> <p>24 BY MS. HURST:</p> <p>25 Q All right. 1</p> <p style="text-align: right;">Page 59</p>	<p>1 products, so I think it's case-by-case. 1</p> <p>2 Q Well, is there a process by which Google</p> <p>3 adopts a plan for its business, prospectively, for</p> <p>4 some period of time, a one-year plan, a three-year</p> <p>5 plan, a five-year plan? 1</p> <p>6 A Sorry, what does "prospectively" mean?</p> <p>7 Q Looking forward.</p> <p>8 A Well, I think the closest thing I can</p> <p>9 think of is what you mentioned earlier, the OKRs.</p> <p>10 Q Does the OKR process involve coming up 1</p> <p>11 with goals and objectives for the business looking</p> <p>12 forward for some period of time?</p> <p>13 A For some period of time, yes.</p> <p>14 Q Okay.</p> <p>15 And what's the longest period of time 1</p> <p>16 covered by the OKRs?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: The longest period that I've</p> <p>19 seen is an annual OKR, so it would be for one year.</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Is there a three-year planning process at</p> <p>22 Google --</p> <p>23 MS. ANDERSON: Objection; form.</p> <p>24 BY MS. HURST:</p> <p>25 Q -- where you sit down and say, "Here's 1</p> <p style="text-align: right;">Page 61</p>

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<p>1 where I want to be in three years; these are my 1 2 goals"?</p> <p>3 A I'm sure some teams do.</p> <p>4 Q Is there any three-year plan in existence 5 at Google that contains any discussion of Android? 1 6 MS. ANDERSON: Objection; form, beyond the 7 scope.</p> <p>8 THE WITNESS: I can think of one.</p> <p>9 BY MS. HURST:</p> <p>10 Q What is that? 1 11 A It's related to office space.</p> <p>12 Q Okay. Anything else?</p> <p>13 A Not that I'm aware of.</p> <p>14 Q So you're real estate planning for three 15 years for Google -- for Android? 1 16 MS. ANDERSON: Objection; form.</p> <p>17 THE WITNESS: Yes, that's the one example 18 that I can think of, real estate/headcount, I guess, 19 or hiring planning, you know. As you probably know, 20 there's not much space left in the Bay Area, so we 1 21 have to plan ahead and figure out where to -- where 22 to put our employees, so that's, you know, the one 23 thing that I'm familiar with that is beyond a 24 one-year horizon.</p> <p>25</p> <p style="text-align: right;">Page 62</p>	<p>1 or strategy series of documents where people are 1 2 internally writing down thoughts about Google's 3 strategy for the future about how it's going to earn 4 money that in any way discusses Android?</p> <p>5 MS. ANDERSON: Objection; form, beyond the 1 6 scope.</p> <p>7 THE WITNESS: I don't know.</p> <p>8 BY MS. HURST:</p> <p>9 Q Is there any document at Google that talks 10 about the market that Google hopes to pursue in the 1 11 future that in any way discusses Android?</p> <p>12 MS. ANDERSON: Same objections.</p> <p>13 THE WITNESS: Are there any documents at 14 Google that discusses markets where we want to grow 15 that involves Android; is that your question? 1 16 BY MS. HURST:</p> <p>17 Q My question is: Is there any document at 18 Google that talks about markets that Google hopes to 19 pursue in the future that discusses Android?</p> <p>20 MS. ANDERSON: Objection -- same 1 21 objections.</p> <p>22 THE WITNESS: Well, I can think of one 23 example.</p> <p>24 BY MS. HURST:</p> <p>25 Q And what is that? 1</p> <p style="text-align: right;">Page 64</p>
<p>1 BY MS. HURST: 1 2 Q And any plan about how you're going to 3 earn the money to pay for those employees and that 4 real estate?</p> <p>5 A Sorry, your question is vague. Can you 1 6 restate your question?</p> <p>7 Q Yeah.</p> <p>8 Is there any plan in existence at Google 9 that discusses Android and talks about how you're 10 going to earn money? 1 11 MS. ANDERSON: Objection; form.</p> <p>12 THE WITNESS: For Android, since you said 13 "Android," I'm not familiar with any plans to start 14 charging for Android, for instance.</p> <p>15 BY MS. HURST: 1 16 Q That's not my question.</p> <p>17 My question is: Is there any business 18 plan in existence at Google, forward-looking plan, 19 that talks about how Google is going to earn money 20 and discusses Android, in any way? 1 21 MS. ANDERSON: Objection; form, beyond the 22 scope.</p> <p>23 THE WITNESS: I'm not sure.</p> <p>24 BY MS. HURST:</p> <p>25 Q Is there any strategy document at Google 1</p> <p style="text-align: right;">Page 63</p>	<p>1 A I guess it depends how you define 1 2 "market." But my interpretation of when you said 3 "market" was sort of product areas. So one example 4 might be enterprise.</p> <p>5 Q Okay. 1 6 Any other documents that you can think of 7 at Google that talks about markets that Google hopes 8 to pursue in the future and discusses Android?</p> <p>9 A I can think of another example.</p> <p>10 Q Okay. 1 11 Tell me everything that you can think of.</p> <p>12 Don't give me one example at a time. Give it to me, 13 all of it. You've said "enterprise." What else?</p> <p>14 MS. ANDERSON: Objection; form.</p> <p>15 THE WITNESS: Well, the wearable market 1 16 so, for instance, Android Wear.</p> <p>17 BY MS. HURST:</p> <p>18 Q What else?</p> <p>19 A Chrome OS.</p> <p>20 Q What else? 1 21 A Chromecast.</p> <p>22 Q What else?</p> <p>23 A Android Auto.</p> <p>24 Q Please tell me all of them.</p> <p>25 A I'm thinking through. I want to give you 1</p> <p style="text-align: right;">Page 65</p>

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<p>1 a very precise answer. So I'm thinking through my 1</p> <p>2 answers. Let's see, mentioned Android Auto,</p> <p>3 Android Wear. Oh, Android TV and the IOT space.</p> <p>4 Q And you said IOT?</p> <p>5 A I did say that. 1</p> <p>6 Q Anything else?</p> <p>7 A I think that's it.</p> <p>8 Q All right.</p> <p>9 Now, what document were you thinking of</p> <p>10 that discusses these document or documents where you 1</p> <p>11 were thinking of that discusses these markets that</p> <p>12 you've just mentioned?</p> <p>13 MS. ANDERSON: Objection; form.</p> <p>14 THE WITNESS: They're generally -- for</p> <p>15 instance, for the IOT one, I was thinking about a 1</p> <p>16 recent blog post that we had done. For Android TV,</p> <p>17 I was thinking about a review I had recently where</p> <p>18 they were projecting a presentation; same thing for</p> <p>19 Android Wear, ditto Android Auto.</p> <p>20 For enterprise, I was in London last week 1</p> <p>21 meeting with a team there that's working on this --</p> <p>22 in that space, and they showed me a document also,</p> <p>23 so those were the documents that I was thinking of.</p> <p>24 BY MS. HURST:</p> <p>25 Q Who reports to you? 1</p> <p style="text-align: right;">Page 66</p>	<p>1 Q And what does that involve? 1</p> <p>2 A What does leading it involve?</p> <p>3 Q What is the effort?</p> <p>4 A I see. What is the effort? Well, there</p> <p>5 are a number of components to it. Would you like 1</p> <p>6 me to enumerate them?</p> <p>7 Q Please.</p> <p>8 A So I can think of at least two distinct</p> <p>9 efforts there that are interrelated but somewhat</p> <p>10 separate. The first one we call Project Brillo, 1</p> <p>11 and it is basically -- if you think of the Android</p> <p>12 operating system and how widely it's been adopted</p> <p>13 by the industry -- and "industry" here, I'm</p> <p>14 referring to manufacturers basically -- one of the</p> <p>15 benefits that Android brings as an operating system 1</p> <p>16 is that, first of all, there are a lot of</p> <p>17 manufacturers who are familiar with it, but also</p> <p>18 there are a lot of component suppliers who are</p> <p>19 familiar with it. And by "component suppliers" I'm</p> <p>20 talking about chip manufacturers or sensor 1</p> <p>21 providers, you know, silicon providers, hardware</p> <p>22 providers.</p> <p>23 And so this is -- really, I'm talking</p> <p>24 about the Android kernel and -- and -- and sort of</p> <p>25 that realm, not the application framework or 1</p> <p style="text-align: right;">Page 68</p>
<p>1 A I have a number of reports. 1</p> <p>2 Q Do they break down in any way by these</p> <p>3 functional market areas that you've been describing?</p> <p>4 A Sometimes. It depends.</p> <p>5 Q Is there someone who reports to you who 1</p> <p>6 you understand to be overall responsible for leading</p> <p>7 Google's effort with respect to IOT; the Internet of</p> <p>8 Things?</p> <p>9 A Not reporting directly to me, no.</p> <p>10 Q Reporting up through some level that 1</p> <p>11 ultimately ends with you?</p> <p>12 A Yeah, in my hierarchy, sure.</p> <p>13 Q All right.</p> <p>14 And who is that?</p> <p>15 A Ryan Cairns and Gayathri Rajan. 1</p> <p>16 Q Say that last one again.</p> <p>17 A Gayathri. I believe her last name is</p> <p>18 Rajan.</p> <p>19 Q Gayathri Rajan?</p> <p>20 A I believe that's her last name, yes. 1</p> <p>21 Q All right.</p> <p>22 And they're responsible for some effort</p> <p>23 with respect to Internet of Things?</p> <p>24 A Correct. Together they're leading our</p> <p>25 IOT efforts. 1</p> <p style="text-align: right;">Page 67</p>	<p>1 nothing of that nature, more just the hardware 1</p> <p>2 portions of it.</p> <p>3 There are a lot of hardware providers</p> <p>4 that are familiar with Android, so our idea was to</p> <p>5 take that broad support base for the Android 1</p> <p>6 kernel and drivers and so on and make it possible</p> <p>7 for folks who are familiar with that technology to</p> <p>8 also build devices in the IOT space. So that's</p> <p>9 what Project Brillo is.</p> <p>10 And then the other -- I mentioned there 1</p> <p>11 are at least two I can think of. The other one is</p> <p>12 called Weave, and Weave is a -- you can think of</p> <p>13 it as a protocol that enables devices to discover</p> <p>14 each other and talk to each other.</p> <p>15 One of the common problems in the IOT 1</p> <p>16 space is that there are many, many devices out</p> <p>17 there that are capable of connecting to the</p> <p>18 Internet and doing something useful for you in</p> <p>19 your life, but a lot of these devices don't know</p> <p>20 how to talk to each other or don't even know about 1</p> <p>21 each other. And our thinking was that if these</p> <p>22 devices could all talk to each other and exchange</p> <p>23 status or commands, things like that, maybe the</p> <p>24 whole combination of all of these devices would be</p> <p>25 much more powerful for the end user. 1</p> <p style="text-align: right;">Page 69</p>

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<p>1 So that's what Weave enables at a 1</p> <p>2 protocol level. It's separate from any operating</p> <p>3 system. It's agnostic to what the operating</p> <p>4 system is. It's just a way in which devices talk</p> <p>5 to each other, a language -- not even a way, in 1</p> <p>6 the sense that it's more like a language, a common</p> <p>7 language, that's shared between devices.</p> <p>8 Q Who is leading your effort with respect to</p> <p>9 Android TV?</p> <p>10 A Mario Queiroz. We can help you with the 1</p> <p>11 spelling later.</p> <p>12 Q What is your effort with respect to</p> <p>13 Android TV?</p> <p>14 A What is my effort?</p> <p>15 Q Google's effort. When I say "you," I'm 1</p> <p>16 only talking about Google, right?</p> <p>17 A Okay. What is our effort related to</p> <p>18 Android TV; that was your question?</p> <p>19 Q Yes.</p> <p>20 A Well, the thinking there is that 1</p> <p>21 televisions these days have become pretty</p> <p>22 sophisticated, and they all require an operating</p> <p>23 system. So we figured we have an operating system</p> <p>24 with -- with a lot of adoption and a lot of, again,</p> <p>25 industry knowledge, and many times a phone 1</p> <p style="text-align: right;">Page 70</p>	<p>1 with a -- with a holistic experience of devices 1</p> <p>2 from various manufacturers that all sort of</p> <p>3 interact with each other.</p> <p>4 Q And what benefit does Google expect to get</p> <p>5 out of that? 1</p> <p>6 A Well, I think our -- going back to our</p> <p>7 earlier discussion, I think the number one benefit</p> <p>8 is happy customers. We think, you know, having a</p> <p>9 very happy, engaged, delighted set of end users is</p> <p>10 very important to the health of -- or the success 1</p> <p>11 of any product.</p> <p>12 Q Do happy customers pay your salary?</p> <p>13 A No. No customer has directly paid me,</p> <p>14 no.</p> <p>15 Q You've got to earn money to pay your 1</p> <p>16 employees, right?</p> <p>17 A Yes, we do pay our employees, and we need</p> <p>18 money to pay for them.</p> <p>19 Q Do you expect to earn money somehow to</p> <p>20 benefit economically from Android TV? 1</p> <p>21 A Sure. There's -- you know, we talked</p> <p>22 earlier about application developers, you know, if</p> <p>23 application developers target their applications</p> <p>24 for the TV platform, for Android TV, you know. The</p> <p>25 revenue share that we talked about for app 1</p> <p style="text-align: right;">Page 72</p>
<p>1 manufacturer also manufactures TVs and vice versa. 1</p> <p>2 So as an example, Sony makes phones, but</p> <p>3 they also make TVs, and so we thought it would be</p> <p>4 beneficial for Sony, just to use them as an</p> <p>5 example, if they could also use Android. They 1</p> <p>6 already use Android on phones. If they could also</p> <p>7 use Android for TVs, that would be a cost saving</p> <p>8 for them in terms of employee training and -- and</p> <p>9 so on.</p> <p>10 So that's why we've made Android TV 1</p> <p>11 available for manufacturers of TVs. It's one of</p> <p>12 the reasons why we've done that.</p> <p>13 Q And what benefit does Google expect to get</p> <p>14 out of making Android TV available?</p> <p>15 A Well, we think -- it's similar to the IOT 1</p> <p>16 discussion we just had, but we think that consumers</p> <p>17 and customers will benefit if various devices in</p> <p>18 their lives, important devices in their lives, know</p> <p>19 how to talk to each other.</p> <p>20 And so there's a familiarity factor of 1</p> <p>21 being able to run similar applications but also</p> <p>22 being able to -- one device knowing about another</p> <p>23 device might create new experiences that weren't</p> <p>24 possible before. So what we're trying to do here</p> <p>25 is to make it sort of -- provide end customers 1</p> <p style="text-align: right;">Page 71</p>	<p>1 developers applies there as well. 1</p> <p>2 Q How else do you expect to earn money</p> <p>3 associated with Android TV?</p> <p>4 A I guess a similar theme, but instead of</p> <p>5 applications, this could be content also. So, for 1</p> <p>6 instance, if -- if I subscribe to HBO now on my</p> <p>7 Android TV, you know, certainly HBO gets paid from</p> <p>8 the consumer, but we also get a cut.</p> <p>9 Q You said you saw a presentation last week</p> <p>10 in London about Android TV? Did I -- 1</p> <p>11 A No, I didn't say that.</p> <p>12 Q You recently saw some kind of review</p> <p>13 presentation about Android TV?</p> <p>14 A Yes.</p> <p>15 Q When did you see that? 1</p> <p>16 A I don't remember the exact date. I have</p> <p>17 weekly reviews with many of my teams, not all, but</p> <p>18 many of them, and I happen to have one with the</p> <p>19 Android TV team recently. I don't remember the</p> <p>20 exact date, though. 1</p> <p>21 Q Was it within the last month? Last two</p> <p>22 months?</p> <p>23 A It was in the last month.</p> <p>24 Q Okay.</p> <p>25 And it was Mr. Queiroz? 1</p> <p style="text-align: right;">Page 73</p>

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<p>1 A Mario Queiroz. 1</p> <p>2 Q And did this presentation include any</p> <p>3 revenue projections?</p> <p>4 A No, I don't believe so.</p> <p>5 Q Who do you understand to be responsible at 1</p> <p>6 Google for figuring out how Google is going to earn</p> <p>7 money in connection with Android TV?</p> <p>8 MS. ANDERSON: Objection; form.</p> <p>9 THE WITNESS: How Google is going to earn</p> <p>10 money on Android TV. That's probably closest to 1</p> <p>11 the -- to the Play team.</p> <p>12 BY MS. HURST:</p> <p>13 Q You mean the Google Play?</p> <p>14 A Sorry, yes. The Google Play team. They</p> <p>15 provide, for instance, the Play Store, which is our 1</p> <p>16 application store, among other things.</p> <p>17 Q Do you have any plan to collect data</p> <p>18 associated with consumers' use of Android TV?</p> <p>19 A What sort of data are you referring to?</p> <p>20 Q Any kind. 1</p> <p>21 A I believe we do, with the user's consent.</p> <p>22 Q Do you have any plan to commercialize your</p> <p>23 collection of data associated with consumers' use of</p> <p>24 Android TV?</p> <p>25 MS. ANDERSON: Objection; form. 1</p> <p style="text-align: right;">Page 74</p>	<p>1 BY MS. HURST: 1</p> <p>2 Q Other than applications and content, does</p> <p>3 Google have any other plan, strategy for earning</p> <p>4 money in connection with Android TV?</p> <p>5 A Yeah, I can think of one more. 1</p> <p>6 Q And what is that?</p> <p>7 A Well, if -- if a consumer watches YouTube</p> <p>8 and if there's an ad in that YouTube stream -- I</p> <p>9 don't know if I'm getting my terminology right</p> <p>10 because I don't work on that team, but I think you 1</p> <p>11 get the general idea. If there's an ad related to</p> <p>12 the YouTube channel they're watching, I could see</p> <p>13 that being a source of revenue for Google.</p> <p>14 Q So you can put your own applications on</p> <p>15 the TV and earn money through your own applications? 1</p> <p>16 MS. ANDERSON: Objection; form.</p> <p>17 THE WITNESS: Well, the idea behind a</p> <p>18 platform is anyone can provide applications and</p> <p>19 anyone can figure out ways in which to make money.</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Including Google itself?</p> <p>22 A Including Google itself but not in any</p> <p>23 particularly unique way. We're just an application</p> <p>24 developer on Android or Android TV or any of our</p> <p>25 platforms, just like everyone else. 1</p> <p style="text-align: right;">Page 76</p>
<p>1 THE WITNESS: Not that I'm aware of. 1</p> <p>2 Well, let me rephrase. We, for instance, collect</p> <p>3 credit card information from consumers so that they</p> <p>4 can pay for the application that they want to buy or</p> <p>5 the subscription service that they want to subscribe 1</p> <p>6 to. So I guess credit card numbers is data, but</p> <p>7 that's a very direct form of data.</p> <p>8 BY MS. HURST:</p> <p>9 Q Well, if you have the operating system in</p> <p>10 the TV, then you can keep track of everything people 1</p> <p>11 are watching, true?</p> <p>12 MS. ANDERSON: Objection; form.</p> <p>13 THE WITNESS: Not necessarily, no.</p> <p>14 BY MS. HURST:</p> <p>15 Q You could do so if you wanted to, correct? 1</p> <p>16 MS. ANDERSON: Objection; form, beyond the</p> <p>17 scope.</p> <p>18 THE WITNESS: I'm not sure, actually.</p> <p>19 BY MS. HURST:</p> <p>20 Q So you've never heard anybody discussing 1</p> <p>21 any idea that Android TV could be used to, for</p> <p>22 example, track consumers' viewing habits?</p> <p>23 MS. ANDERSON: Same objections.</p> <p>24 THE WITNESS: I've heard that idea but not</p> <p>25 from Google. 1</p> <p style="text-align: right;">Page 75</p>	<p>1 Q Well, isn't it true that Mr. Page and 1</p> <p>2 Mr. Brin specifically wanted to make sure that</p> <p>3 Google had control of Android so that it could be</p> <p>4 the default search provider?</p> <p>5 MS. ANDERSON: Objection; form. 1</p> <p>6 THE WITNESS: I've never heard them say</p> <p>7 that, so I don't know.</p> <p>8 BY MS. HURST:</p> <p>9 Q Is it true that Google Play pays</p> <p>10 Apple in order to be the default search provider? 1</p> <p>11 A Google Play pays Apple?</p> <p>12 Q Sorry, Google pays Apple -- not "play."</p> <p>13 Let me start over. Strike that.</p> <p>14 Is it true that Google pays Apple in order</p> <p>15 to be the default search provider in iOS? 1</p> <p>16 MS. ANDERSON: Objection; form, beyond the</p> <p>17 scope.</p> <p>18 THE WITNESS: I've heard things, but I</p> <p>19 don't know the details of that.</p> <p>20 BY MS. HURST: 1</p> <p>21 Q Well, what is your belief about whether</p> <p>22 that's true or not?</p> <p>23 MS. ANDERSON: Objection; form, beyond the</p> <p>24 scope.</p> <p>25 THE WITNESS: Well, what I -- what I know 1</p> <p style="text-align: right;">Page 77</p>

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1 is that I don't deal with Google's dealing with 1
2 Apple because I work on Android, among other things.
3 So I'm not familiar with that part. That would be
4 someone else's responsibility at Google.
5 BY MS. HURST: 1
6 Q Well, do you have a belief, one way or
7 another, whether Google pays Apple in order to be
8 the default search provider?
9 MS. ANDERSON: Same objections.
10 THE WITNESS: I've heard, but I don't know 1
11 for a fact.
12 BY MS. HURST:
13 Q Okay.
14 You believe that to be true, right?
15 MS. ANDERSON: Same objections. 1
16 THE WITNESS: Yeah, I suppose so. I have
17 nothing to question what I heard.
18 BY MS. HURST:
19 Q So who has Google paid in order to be the
20 default search provider on Android devices? 1
21 A In order to be the default search
22 provider, meaning had we not paid, they wouldn't
23 have used Google anyway? I'm not sure.
24 Q Well, who has Google paid where it has
25 also been the Android search -- pardon me. 1

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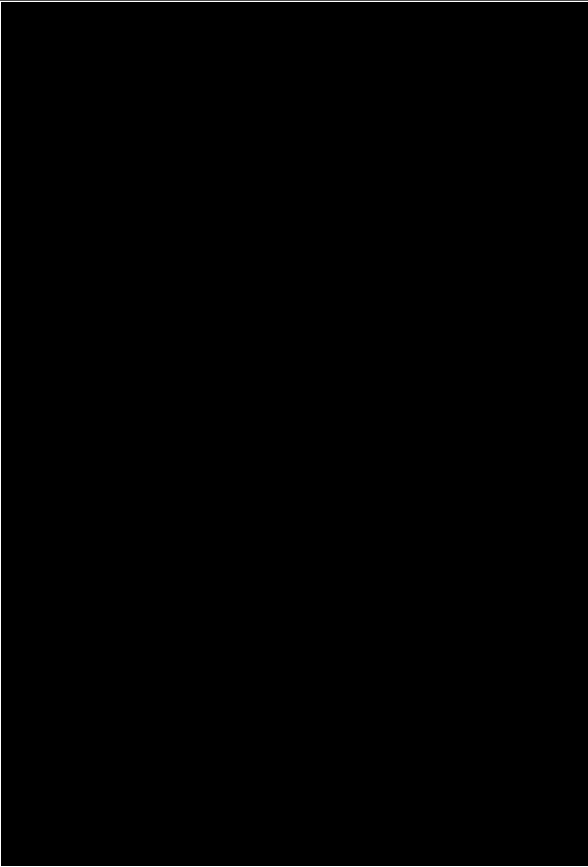
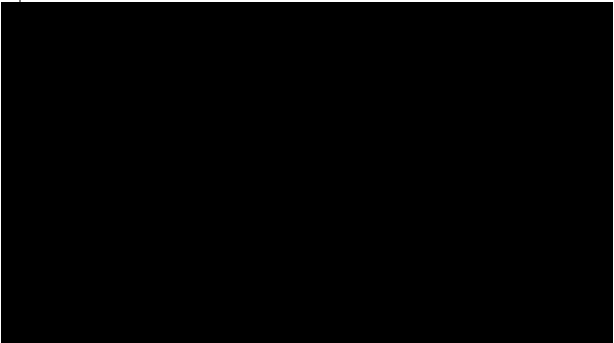
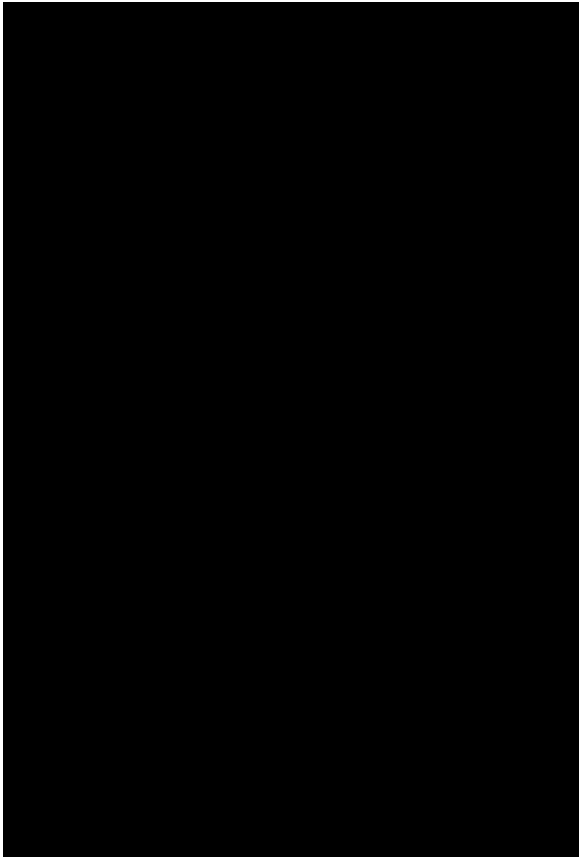
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21 (Pages 78 - 81)

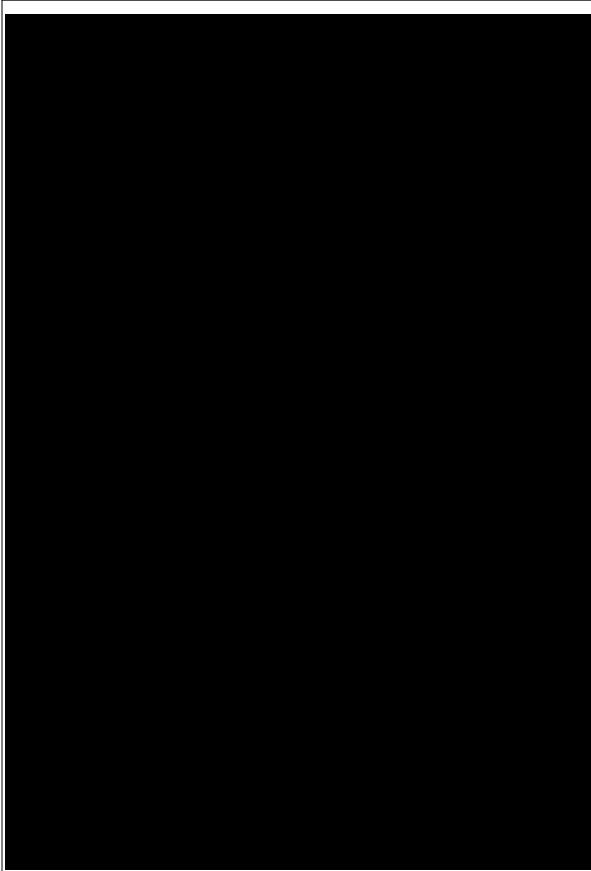
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<p>25</p>	<p>1 going and whether it's gone in this direction or 1 2 not. 3 BY MS. HURST: 4 Q Well, what factors, other than historical 5 circumstances, can you identify that Google takes 1 6 into account in deciding whether to pay its business 7 partners revenue associated with searches on their 8 devices? 9 MS. ANDERSON: Objection; form, beyond the 10 scope. 1 11 THE WITNESS: Well, one factor I can think 12 of is whether that would be -- excuse me -- whether 13 that would be material to them. In other words, if 14 a partner is only selling, you know, a small number 15 of devices, let's say, and only, you know, a small 1 16 fraction of their users are actually doing anything 17 with regard to Search, maybe giving them a cut of 18 that is such a small number that we -- we're better 19 off working with those partners in other ways. 20 BY MS. HURST: 1 21 Q Doesn't it also depend on who has the 22 leverage in the relationship? 23 MS. ANDERSON: Same objections. 24 THE WITNESS: What do you mean by that? 25</p>
<p>Page 82</p> <p>1 [REDACTED] 1 2 [REDACTED] 3 And what are the factors that go into 4 Google's decision whether it will pay associated 5 with searches for that partner? 1 6 MS. ANDERSON: Objection; form, beyond the 7 scope. 8 THE WITNESS: I believe this is a somewhat 9 dissatisfying answer, but I believe some of it is 10 historical and/or organic, meaning considering the 1 11 circumstances, the particulars with any 12 particular -- with any specific partner would 13 dictate whether we have such an agreement with them 14 or not. 15 BY MS. HURST: 1 16 Q So part of it, what you do now and what 17 you expect to do in the future, is based on what you 18 did in the past? 19 MS. ANDERSON: Same objections. 20 THE WITNESS: Well, that's not -- not what 1 21 I said, but I guess my point is it's -- it's -- it's 22 somewhat ad hoc. It's been an ad hoc decision, not 23 random in the sense that there's no merit to these 24 decisions, but it really depends on the partner and 25 how our conversations with those partners have been 1</p> <p>Page 83</p>	<p>Page 84</p> <p>1 BY MS. HURST: 1 2 Q Well, are you familiar with the concept of 3 leverage in negotiations? 4 MS. ANDERSON: Same objections. 5 THE WITNESS: Yes, I'm familiar with the 1 6 general concept of leverage. I guess what I'm 7 asking you is specifically what type of scenario are 8 you talking about? 9 BY MS. HURST: 10 Q I'm just asking you generally if one of 1 11 the factors that you take into account in deciding 12 whether to pay a business partner associated with 13 advertising revenue is who has the leverage in the 14 relationship? 15 MS. ANDERSON: Same objections. 1 16 THE WITNESS: I guess we don't really see 17 it that way; certainly, I don't. I mean, the most, 18 if not all -- I should say most, there are 19 probably -- I shouldn't speak in absolute terms, but 20 I'll say most partners seem to like Google Search. 1 21 They want their customers to use Google Search 22 because their customers like Google Search. So 23 making that available to their customers is 24 something they are choosing to do, these partners. 25 So in that sense, you know, when you say 1</p> <p>Page 85</p>

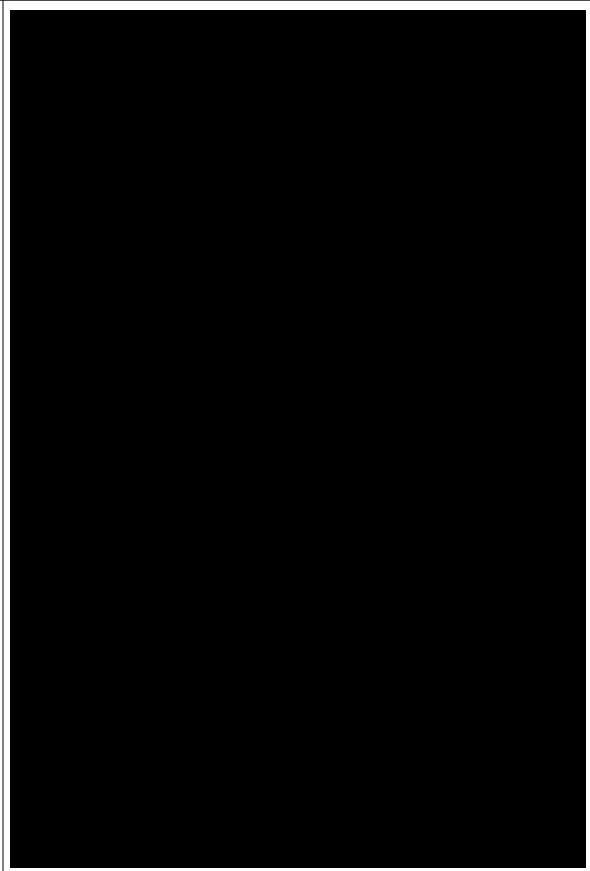
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<p>1 "leverage," that seems to imply that we're asking 1 2 partners to do something they don't want to do, and 3 in exchange for doing something they don't want to 4 do, we're paying them money. I don't see it that 5 way at all, and I don't think our partners see it 1 6 that way either. 7 BY MS. HURST: 8 Q Well, it's certainly easier to get people 9 to do things when you're willing to pay them for it, 10 isn't it? 1 11 MS. ANDERSON: Objection; form, beyond the 12 scope. 13 THE WITNESS: I can't get my son to eat 14 something he doesn't want to eat even if I offer him 15 \$5, so I don't know if I would necessarily agree 1 16 with that. 17 BY MS. HURST: 18 Q Just wondering; do you think your son is 19 comparable to your business relationship with 20 Samsung? 1 21 MS. ANDERSON: Objection; form, beyond the 22 scope. 23 THE WITNESS: You made a general statement 24 about how it's easier to convince people to do 25 something if you pay them money, and I was just 1</p> <p style="text-align: right;">Page 86</p>	 <p style="text-align: right;">Page 88</p>
<p>1 providing a counterpoint to that. 1 2 BY MS. HURST: 3 Q And do you think your son is a comparable 4 counterpoint to Samsung, LG, Sony, Verizon, 5 T-Mobile, Vodafone and the other companies we've 1 6 been discussing? 7 MS. ANDERSON: Same objection; beyond the 8 scope. 9 THE WITNESS: No. Clearly he doesn't 10 manufacture phones. 1 11 BY MS. HURST: 12 Q Do you have any plan or strategy to share 13 revenue in some way with television manufacturers in 14 connection with their potential use of Android TV? 15 A Sorry, can you repeat that? 1</p>  <p style="text-align: right;">Page 87</p>	 <p style="text-align: right;">Page 89</p>

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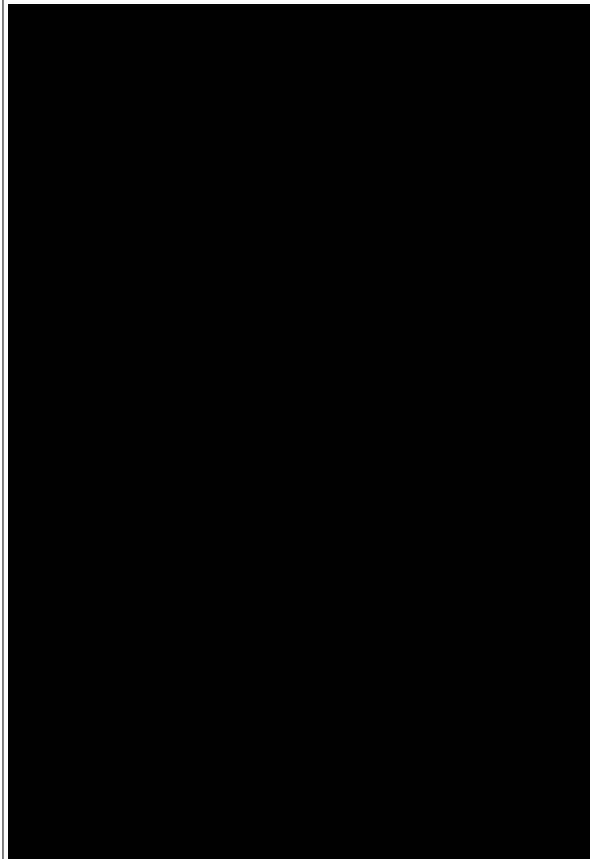
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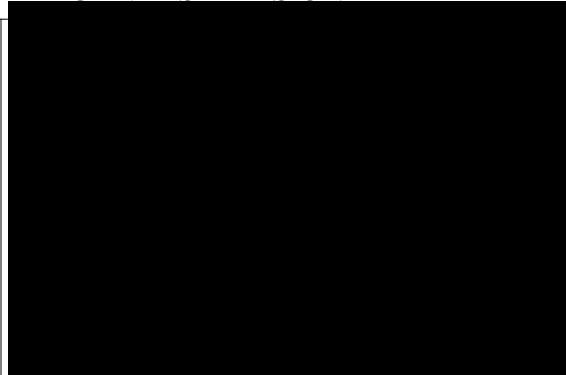
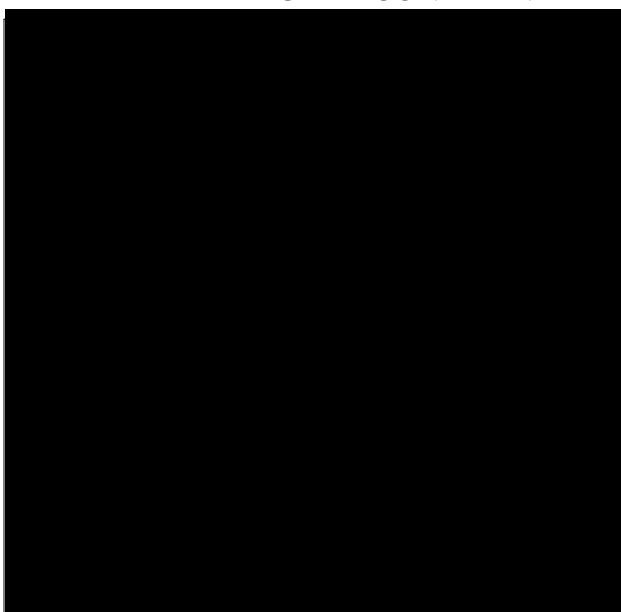
Page 91



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24 (Pages 90 - 93)

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18 Q Is there any television manufacturer,
19 other than Sony, who's agreed to use Android TV?

20 A Yes. 1

21 Q Who else?

22 A Sharp is an example.

23 Q Anyone else?

24 A I believe Philips TP Vision is another
25 example. 1

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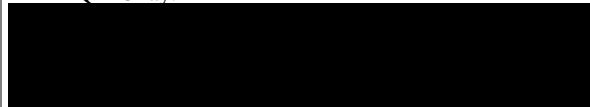
11 Q Is there a group somewhere responsible for
12 getting people to use Android Wear?

13 A There's a group of people who's
14 responsible for not only developing but also
15 deploying Android Wear, yes. 1

16 Q When you say "deploying," that's what you
17 mean by getting other people to use it?

18 A Yeah, generally just getting other people
19 to use it, supporting them when they've decided to
20 use it, helping them commercialize it, helping them 1
21 support it.

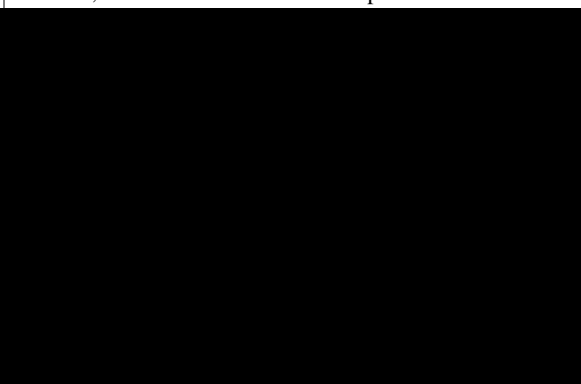
22 Q Okay.



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1 Q Anyone else? 1

2 A In terms of actual TV sets, you know,
3 like the one we have over there, an actual TV set,
4 I believe that's the current sort of announced
5 list. There are others that we're in discussions 1
6 with, but there are also other TV partners as well.



1

18 Q Is your knowledge sufficient for you to
19 say one way or another?

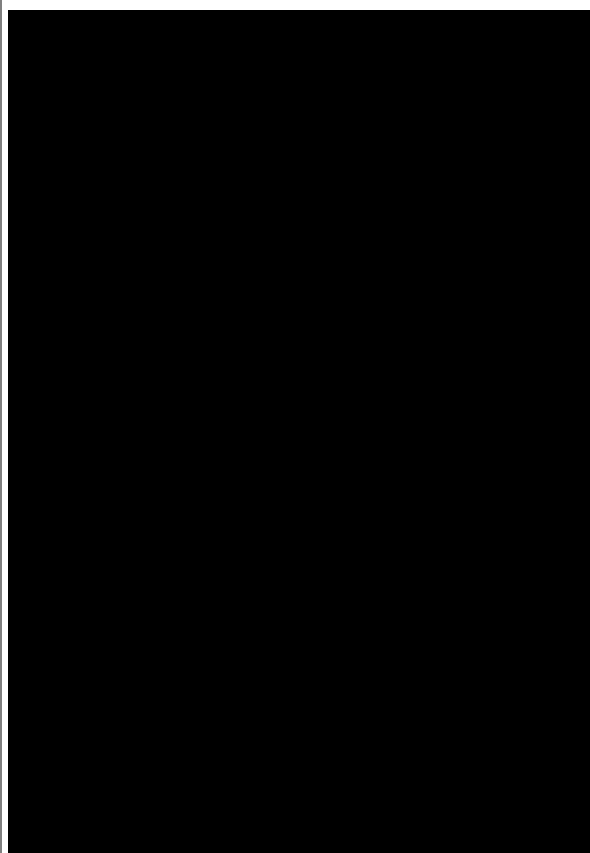
20 A Is my knowledge sufficient to say one way 1
21 or another? I didn't say "one way or another." I
22 said "not that I'm aware of," so...

23 Q So you don't know?

24 A I don't know for a fact, no.

1

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25 (Pages 94 - 97)

26 (Pages 98 - 101)

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<p>1 Q Did you speak with him to prepare for this 1 2 deposition?</p> <p>3 A Not to prepare for this deposition, no. 4 [REDACTED] 5 [REDACTED] 6 [REDACTED] 7 [REDACTED] 8 [REDACTED] 9 [REDACTED] 10 [REDACTED] 11 [REDACTED] 12 [REDACTED] 13 [REDACTED] 14 BY MS. HURST: 15 Q How does Google plan to make money on 1 16 Android Auto?</p> <p>17 A As I was mentioning earlier, a lot of 18 what drives Google is building products that people 19 want to use. So if you think of the alternative, 20 if you think of a world in which cars and phones 1 21 work well together, today, for instance, stepping 22 back today, the extent of a typical car and a phone 23 interaction is basically Bluetooth, you know, how 24 you get your phone calls over the car's stereo, 25 which is a pretty minimal integration, and over 1 Page 102</p>	<p>1 BY MS. HURST: 1 2 Q Is there any opportunity to advertise in 3 connection with the use of Android Auto?</p> <p>4 A It's certainly possible for some entities 5 to advertise, although on this topic, we have had 1 6 conversations with auto manufacturers specifically 7 about Google doing advertising, advertisements, and 8 it's something we're currently not contemplating 9 because of, again, you know, our focus is around 10 building products that people want to use. 1 11 The example that I gave, I think, points 12 out a pretty real and compelling use case of your 13 car knowing where you're about to go for your 14 appointment in the morning, doesn't need to 15 involve advertisement. 1 16 Another consideration, I think, is 17 around driver distraction. For in-car uses, 18 there's specific laws, depends on the country, but 19 there's specific laws that talk about distraction 20 and, you know, how many -- how many milliseconds 1 21 it should take a driver to be able to respond to a 22 screen and so on. And so really right now, we're 23 focused on the bare fundamentals of getting the 24 user interaction right, so we're not focused on 25 advertising in the car. 1 Page 104</p>
<p>1 time what we want to enable is for your car, for 1 2 instance, to know, because your phone knows, where 3 you want to go.</p> <p>4 So, for instance, today when I was 5 coming here, my phone's calendar knew that I 1 6 should come to this address, 601 South California 7 or whatever -- wherever we are. But my car didn't 8 know that. And wouldn't it be great if your car 9 could automatically know that through your phone? 10 That's the premise behind the Android Auto 1 11 project.</p> <p>12 So there's not really a direct financial 13 motive here, aside from just providing 14 functionality that people want because if others 15 provide this functionality but we don't, then 1 16 that's overall a bad thing for the overall Android 17 ecosystem.</p> <p>18 Q So you have no plan whatsoever to make 19 money associated in any way with Android Auto?</p> <p>20 MS. ANDERSON: Objection; form. 1 21 THE WITNESS: Many projects at Google are 22 started with little or no thought behind how that 23 project will eventually make money. The driving 24 principle is how to build products that people want 25 to use. 1 Page 103</p>	<p>1 Q Is there any opportunity for Google to 1 2 earn money in any way in connection with anybody's 3 use of Android Auto?</p> <p>4 MS. ANDERSON: Objection; form. 5 THE WITNESS: Is there any opportunity? 1 6 Well, I guess, theoretically we could start charging 7 car manufacturers for the software, but that's not 8 something we're planning to do.</p> <p>9 BY MS. HURST: 10 Q Anything else? 1 11 A I'm sure we could come up with many 12 different forms of, as you would say, monetization. 13 We could charge auto manufacturers for engineering 14 support fees, you know. We could charge them for 15 certain other things, but none of these things are 1 16 currently under consideration. So I could come up 17 with a bunch of hypotheticals, but I'm not aware of 18 any -- any specific plans in place to charge 19 manufacturers for Android Auto.</p> <p>20 Q Does Android Auto include infotainment 1 21 systems?</p> <p>22 A I'm hesitating on your use of the word 23 "including." Android Auto relates to infotainment 24 systems, yes.</p> <p>25 Q Well, does Android Auto supply, for 1 Page 105</p>

28 (Pages 106 - 109)

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<p>1 A Electronically. 1</p> <p>2 Q Is that in a personalized communication of</p> <p>3 some sort or just a generic download?</p> <p>4 A It depends on the partner and the phase</p> <p>5 of the project. 1</p> <p>6 Q Can you explain?</p> <p>7 A Sure. So, for instance, in the -- in the</p> <p>8 early days of -- I'll use Sony as an example again.</p> <p>9 In the early days of the Sony project where they</p> <p>10 were one of the first partners to launch with 1</p> <p>11 Android TV, we would share sort of the in-progress</p> <p>12 source code with them privately through a website,</p> <p>13 but once they were done and once we were done,</p> <p>14 we've also made that source code now available</p> <p>15 publicly so that anyone can download it. So that's 1</p> <p>16 what I mean by depends on the partner and timing.</p> <p>17 If something is still under development,</p> <p>18 we typically do the development privately with</p> <p>19 those partners, and only when the product is</p> <p>20 commercialized and available for purchase or, you 1</p> <p>21 know, at least publicly available, that's when we</p> <p>22 make it -- the source code, corresponding source</p> <p>23 code also publicly available.</p> <p>24 Q And is it your understanding that that's</p> <p>25 consistent with the GPL license? 1</p> <p style="text-align: right;">Page 110</p>	<p>1 program is that the realization that many people 1</p> <p>2 use their personal phones for corporate use, and so</p> <p>3 it's really important, because most people don't</p> <p>4 like to carry multiple phones; one personal and one</p> <p>5 corporate, they want to just have one phone that 1</p> <p>6 serves their personal and corporate needs.</p> <p>7 We wanted to make sure that corporations</p> <p>8 are happy to adopt and encourage the use of</p> <p>9 Android in their corporations, because if it turns</p> <p>10 out that most corporations don't want Android and 1</p> <p>11 instead want some other platform, that would</p> <p>12 obviously be a problem for -- for the adoption of</p> <p>13 Android overall.</p> <p>14 So -- so that's -- that's the idea</p> <p>15 behind the Android For Work project or program 1</p> <p>16 that we announced about a year, year and a half</p> <p>17 ago.</p> <p>18 Q And have you entered into any agreements</p> <p>19 for the use of Android For Work?</p> <p>20 MS. ANDERSON: Objection; form. 1</p> <p>21 Sorry.</p> <p>22 THE WITNESS: I believe so, yes.</p> <p>23 BY MS. HURST:</p> <p>24 Q Approximately how many?</p> <p>25 A Oh, I don't know. Let's say a dozen, on 1</p> <p style="text-align: right;">Page 112</p>
<p>1 A Yes. 1</p> <p>2 MS. ANDERSON: Objection; form, beyond the</p> <p>3 scope.</p> <p>4 Go ahead. Sorry.</p> <p>5 THE WITNESS: We make sure that when we 1</p> <p>6 share code and -- whether privately or publicly, we</p> <p>7 make sure that GPL considerations are taken care of.</p> <p>8 BY MS. HURST:</p> <p>9 Q And what is a GPL consideration?</p> <p>10 MS. ANDERSON: Objection; form, beyond the 1</p> <p>11 scope.</p> <p>12 THE WITNESS: I don't know all the details</p> <p>13 of the GPL and the license and actions associated</p> <p>14 with it, but I do know that when it's deemed</p> <p>15 necessary, we will make, for instance, a subset of 1</p> <p>16 the code available publicly before everything else</p> <p>17 to ensure that we satisfy the requirements of the</p> <p>18 GPL.</p> <p>19 BY MS. HURST:</p> <p>20 Q You mentioned Android -- or pardon me, you 1</p> <p>21 mentioned enterprise as a plan for use of Android.</p> <p>22 What did you mean by that?</p> <p>23 A Let's see. I think it was a year ago, a</p> <p>24 little over a year ago, we announced that a program</p> <p>25 called Android For Work, and the idea behind the 1</p> <p style="text-align: right;">Page 111</p>	<p>1 the order of a dozen. 1</p> <p>2 Q Do you have any plan or strategy to</p> <p>3 monetize, commercialize or otherwise derive economic</p> <p>4 benefit from Android For Work?</p> <p>5 MS. ANDERSON: Objection; form. 1</p> <p>6 THE WITNESS: I don't know.</p> <p>7 BY MS. HURST:</p> <p>8 Q Earlier when you mentioned Weave as a</p> <p>9 protocol for devices to communicate with one</p> <p>10 another, did you -- do you contemplate, for example, 1</p> <p>11 other Internet of Things devices using other</p> <p>12 communications protocol being part of this Weave</p> <p>13 protocol?</p> <p>14 So to take an example, Z-Wave is an</p> <p>15 existing Internet of Things standard. Do you 1</p> <p>16 contemplate somehow that Weave will incorporate</p> <p>17 that?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: Actually, so the Weave 1</p> <p>21 protocol -- and you mentioned Z-Wave as an</p> <p>22 example -- they're operating at different layers of</p> <p>23 the stack. So Z-Wave or ZigBee is another example</p> <p>24 or Ethernet, Wi-Fi, you know, these -- these</p> <p>25 technologies are about the physical transport; how 1</p> <p style="text-align: right;">Page 113</p>

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<p>1 bits are transferred from one place to another. 1</p> <p>2 In the case of Ethernet, for instance,</p> <p>3 it's a physical cable. In the case of Wi-Fi or</p> <p>4 ZigBee or Z-Wave, they're wireless transmission</p> <p>5 protocols. Weave is a protocol that sits on top of 1</p> <p>6 that, so Weave doesn't really care whether it's a</p> <p>7 wired connection, a wireless connection or pigeons</p> <p>8 or, you know, doesn't really care how information is</p> <p>9 transferred from one place to another. It's the</p> <p>10 language that's used in those communications. 1</p> <p>11 BY MS. HURST:</p> <p>12 Q Are Weave and Brillo independent of one</p> <p>13 another; that is, could someone choose to use one</p> <p>14 and not the other?</p> <p>15 MS. ANDERSON: Objection; form, beyond the 1</p> <p>16 scope.</p> <p>17 THE WITNESS: Correct. They are</p> <p>18 independent in that, for instance, a manufacturer</p> <p>19 may already have an operating system that they're</p> <p>20 happy with, but they want to be able -- for their 1</p> <p>21 devices to be able to talk to other devices, using</p> <p>22 Weave, so they could, then, continue to use their</p> <p>23 operating system, which is not Brillo but still</p> <p>24 adopt Weave so that they could participate in -- in</p> <p>25 those cross-device communications. 1</p> <p style="text-align: right;">Page 114</p>	<p>1 She -- she's the product manager responsible for 1</p> <p>2 Brillo, and I believe she's leading many of these</p> <p>3 conversations. It's still early days, as I</p> <p>4 mentioned. The product hasn't launched yet, so a</p> <p>5 lot of these discussions are more around sharing 1</p> <p>6 product ideas or technology plans and less about</p> <p>7 the commercialization aspects of things.</p> <p>8 Q Do you have any --</p> <p>9 Does Google have any plan or strategy to</p> <p>10 monetize Brillo -- 1</p> <p>11 MS. ANDERSON: Objection; form.</p> <p>12 BY MS. HURST:</p> <p>13 Q -- either directly or indirectly.</p> <p>14 A I don't know.</p> <p>15 Q What server side system do you contemplate 1</p> <p>16 will be used with Brillo?</p> <p>17 MS. ANDERSON: Objection; form, beyond the</p> <p>18 scope.</p> <p>19 THE WITNESS: There is no one server side</p> <p>20 for Brillo, so it's really up to the manufacturer 1</p> <p>21 who has adopted Brillo to decide how many servers,</p> <p>22 what those servers are, who they are run by. It's</p> <p>23 really -- as I mentioned, Brillo is a client-side</p> <p>24 concept. So what sort of server that client talks</p> <p>25 to is really up to the manufacturer. 1</p> <p style="text-align: right;">Page 116</p>
<p>1 BY MS. HURST: 1</p> <p>2 Q And you've characterized Brillo as an</p> <p>3 operating system. Is that client, server or both?</p> <p>4 MS. ANDERSON: Objection; form, beyond the</p> <p>5 scope. 1</p> <p>6 THE WITNESS: When I think about Brillo,</p> <p>7 I'm referring to the low-level operating system</p> <p>8 kernel and driver level of Android, so it's client.</p> <p>9 BY MS. HURST:</p> <p>10 Q So take an example -- 1</p> <p>11 Give me an example of a device that's</p> <p>12 currently using Brillo.</p> <p>13 A I can't think of an example. Brillo is</p> <p>14 still in the preview phase, so it hasn't</p> <p>15 commercially launched yet. 1</p> <p>16 Q Are you negotiating with anyone to use</p> <p>17 Brillo?</p> <p>18 MS. ANDERSON: Objection; form.</p> <p>19 THE WITNESS: Yes, there are discussions</p> <p>20 with multiple manufacturers for the use of Brillo. 1</p> <p>21 BY MS. HURST:</p> <p>22 Q And are those discussions --</p> <p>23 Who's ultimately the person responsible</p> <p>24 for running those discussions?</p> <p>25 A Well, I mentioned Gayathri earlier. 1</p> <p style="text-align: right;">Page 115</p>	<p>1 BY MS. HURST: 1</p> <p>2 Q What server software is Brillo compatible</p> <p>3 with?</p> <p>4 MS. ANDERSON: Objection; form, beyond the</p> <p>5 scope. 1</p> <p>6 THE WITNESS: It really is up to the</p> <p>7 manufacturer to make Brillo compatible with whatever</p> <p>8 they want to make it compatible.</p> <p>9 BY MS. HURST:</p> <p>10 Q Is there anything that it is compatible 1</p> <p>11 with by default?</p> <p>12 MS. ANDERSON: Same objections.</p> <p>13 THE WITNESS: Well, in the course of</p> <p>14 development -- of the development of Brillo, we have</p> <p>15 developed server side technologies that assist 1</p> <p>16 manufacturers who adopt Brillo but, again, those are</p> <p>17 not mutually exclusive to any other kind of server</p> <p>18 solution. It's just a convenience that we're</p> <p>19 providing and also something that we happened to be</p> <p>20 familiar with given we're Google employees. 1</p> <p>21 BY MS. HURST:</p> <p>22 Q So what do you call those server side</p> <p>23 technologies that for convenience can be adopted</p> <p>24 along with Brillo?</p> <p>25 MS. ANDERSON: Objection; beyond the 1</p> <p style="text-align: right;">Page 117</p>

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<p>1 scope. 1</p> <p>2 THE WITNESS: I don't think there's actual</p> <p>3 product names yet. As I mentioned earlier, the</p> <p>4 product is still in its early days. But some of the</p> <p>5 examples of technologies or services that we may 1</p> <p>6 provide include OTA technology, so the ability to --</p> <p>7 for these devices, IOT devices, to update</p> <p>8 themselves.</p> <p>9 In order for a device to update itself, it</p> <p>10 needs to be able to talk to a server somewhere and 1</p> <p>11 get its new software, so we have technology that</p> <p>12 does this, and we plan to make it available for --</p> <p>13 for users of Brillo. But, again, not mutually</p> <p>14 exclusive to any other form of OTA service.</p> <p>15 BY MS. HURST: 1</p> <p>16 Q Do you have any server side data</p> <p>17 collection and reporting technology for --</p> <p>18 associated for use with Brillo?</p> <p>19 MS. ANDERSON: Objection; form, beyond the</p> <p>20 scope. 1</p> <p>21 THE WITNESS: I believe we're also working</p> <p>22 on some rudimentary form of analytics. If a</p> <p>23 manufacturer wants it, we'll make it possible for</p> <p>24 them to log certain events that they deem -- they,</p> <p>25 the manufacturer, deem interesting, and we'll help 1</p> <p style="text-align: right;">Page 118</p>	<p>1 working well in the field or not so that they can 1</p> <p>2 rectify any issues.</p> <p>3 We believe that's sort of -- sort of a</p> <p>4 basic infrastructural technology that we can</p> <p>5 provide and really up to the manufacturer whether 1</p> <p>6 they want to adopt it or not.</p> <p>7 Q Do you have any plan or strategy to</p> <p>8 address particular markets for IOT?</p> <p>9 A Particular markets. Well, that is</p> <p>10 something we're actively debating. An obvious one 1</p> <p>11 would be the home. People -- you know, a lot of</p> <p>12 the IOT devices these days seem to be focused</p> <p>13 around, quote, the smart home, and so we certainly</p> <p>14 believe that IOT manufacturers who adopt Brillo</p> <p>15 and/or Weave will want to build devices in that 1</p> <p>16 category, so -- but it really, you know -- as a</p> <p>17 platform provider, it really is up to -- ultimately</p> <p>18 up to the device manufacturer to decide what sort</p> <p>19 of products they want to build.</p> <p>20 So, for instance, if a manufacturer 1</p> <p>21 wants to build a smart traffic light, they could</p> <p>22 with Brillo; that's fine by us. Industrial use</p> <p>23 cases, commercial use cases, personal use cases,</p> <p>24 it's really up to the manufacturer to decide.</p> <p>25 Q While it may be up to the manufacturer to 1</p> <p style="text-align: right;">Page 120</p>
<p>1 them collect that information and inspect that 1</p> <p>2 information.</p> <p>3 BY MS. HURST:</p> <p>4 Q All right.</p> <p>5 So collection and inspection of data; is 1</p> <p>6 that the term you're using?</p> <p>7 A Yeah, just -- yes, that's the term I</p> <p>8 happen to use right now. I don't know if that's</p> <p>9 the term the team is using on a day-to-day basis,</p> <p>10 but just in the sense that there are a lot of -- 1</p> <p>11 for these manufacturers for IOT devices, a lot of</p> <p>12 them end up reinventing the wheel over and over</p> <p>13 again.</p> <p>14 So every manufacturer feels like they</p> <p>15 need to make their devices updatable, okay. If 1</p> <p>16 everyone is reinventing the OTA infrastructure,</p> <p>17 that would be a little bit silly because that's</p> <p>18 just table stakes, and they're not spending</p> <p>19 that -- those engineering resources working on</p> <p>20 actual product differentiators. 1</p> <p>21 So along similar lines, some form of</p> <p>22 analytics, we believe, is almost table stakes for</p> <p>23 these devices. You know, as an example would be,</p> <p>24 has the device crashed? You know, a manufacturer</p> <p>25 probably wants to know whether their product is 1</p> <p style="text-align: right;">Page 119</p>	<p>1 decide, you're having discussions with 1</p> <p>2 manufacturers, right?</p> <p>3 A Sure. And they're telling us what they</p> <p>4 want to do with Brillo, which is an important</p> <p>5 feedback mechanism for us. So if we discover that, 1</p> <p>6 you know -- I'm making this up, but just as an</p> <p>7 example, if we talk to 10 manufacturers and seven</p> <p>8 of them told us they want to work on smart traffic</p> <p>9 meters, maybe that will inform us on what sort of</p> <p>10 technologies we should optimize for in Brillo. 1</p> <p>11 And so it's more of a requirements</p> <p>12 gathering or sort of feedback loop effort that</p> <p>13 we're doing right now.</p> <p>14 Q So at this point, you're broadly</p> <p>15 addressing the market, and you haven't made any 1</p> <p>16 decisions to either -- to exclude any segment of it;</p> <p>17 is that a fair characterization?</p> <p>18 MS. ANDERSON: Objection; form.</p> <p>19 THE WITNESS: It's not exactly what I</p> <p>20 said. The way I would characterize it is not only 1</p> <p>21 for Brillo and Weave but for the IOT industry, it's</p> <p>22 still very early. It's a new sort of nascent area</p> <p>23 of technology, so I think we're all learning and</p> <p>24 we're all figuring out what are the important and</p> <p>25 interesting use cases for these devices, and -- and 1</p> <p style="text-align: right;">Page 121</p>

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<p>1 so it's part of the learning is to talk to various 1</p> <p>2 partners to exchange ideas and understand where</p> <p>3 things are headed.</p> <p>4 BY MS. HURST:</p> <p>5 Q All right. 1</p> <p>6 So as part of that process, at present</p> <p>7 have you excluded any market as one that you intend</p> <p>8 to address with the Internet of Things?</p> <p>9 A Excluded?</p> <p>10 Q Yeah. 1</p> <p>11 A I don't know.</p> <p>12 MS. HURST: What time are we expecting the</p> <p>13 sandwiches to arrive?</p> <p>14 MR. HWANG: Another 15 minutes.</p> <p>15 BY MS. HURST: 1</p> <p>16 Q Does Brillo include the core libraries of</p> <p>17 Android?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: Can you define "core 1</p> <p>21 libraries of Android" for me?</p> <p>22 BY MS. HURST:</p> <p>23 Q Well, have you ever seen that thing on the</p> <p>24 Google website that shows the Android stack from the</p> <p>25 Linux kernel at the bottom, the applications 1</p> <p style="text-align: right;">Page 122</p>	<p>1 scope. 1</p> <p>2 THE WITNESS: Really depends on the</p> <p>3 diagram. The one I'm thinking of, the core</p> <p>4 libraries, I believe, refer to native level runtime</p> <p>5 support in the form of Bionic. 1</p> <p>6 BY MS. HURST:</p> <p>7 Q Let me ask you something: For the Android</p> <p>8 platform as a whole, is there something that is</p> <p>9 commonly referred to at Google as the core</p> <p>10 libraries? 1</p> <p>11 MS. ANDERSON: Objection; beyond the</p> <p>12 scope.</p> <p>13 THE WITNESS: I don't think so. I mean,</p> <p>14 I've -- I've been working on -- as I mentioned, on</p> <p>15 Android for nine and a half years now, and when you 1</p> <p>16 say "core libraries," I'm not sure which one you're</p> <p>17 referring to, so that's why I'm asking. I</p> <p>18 believe -- you know, my guess is if you asked 10</p> <p>19 engineers what "core library" is and you forced them</p> <p>20 to answer, you would probably get, you know, at 1</p> <p>21 least five different answers.</p> <p>22 BY MS. HURST:</p> <p>23 Q So is there any notion at all at Google as</p> <p>24 to which libraries are more fundamental or essential</p> <p>25 or important to the Android platform? 1</p> <p style="text-align: right;">Page 124</p>
<p>1 framework at the top? 1</p> <p>2 You've seen that, right?</p> <p>3 A I don't know which one you're referring</p> <p>4 to. I've seen multiple diagrams with various boxes</p> <p>5 and labels on it and -- 1</p> <p>6 Q Right.</p> <p>7 Google diagrams, not just somebody else's</p> <p>8 diagram.</p> <p>9 MS. ANDERSON: Objection; form.</p> <p>10 THE WITNESS: Sure, I wasn't done 1</p> <p>11 answering your question yet but, yes, I've seen</p> <p>12 multiple diagrams from Google and others describing</p> <p>13 the architecture of Android, but that's why I'm</p> <p>14 asking for clarification because there are so many</p> <p>15 different diagrams, I'm not sure when you say "core 1</p> <p>16 libraries," which diagram are you referring to? The</p> <p>17 more specific you can be, the more specific I can</p> <p>18 be.</p> <p>19 BY MS. HURST:</p> <p>20 Q Have you ever seen any Google diagram of 1</p> <p>21 the Android platform that included a box for core</p> <p>22 libraries on it?</p> <p>23 A I probably have, yeah.</p> <p>24 Q What did you understand that to mean?</p> <p>25 MS. ANDERSON: Objection; form, beyond the 1</p> <p style="text-align: right;">Page 123</p>	<p>1 MS. ANDERSON: Objection; form, beyond the 1</p> <p>2 scope.</p> <p>3 THE WITNESS: I don't think there's</p> <p>4 anything in Android -- I mean, Android as a whole</p> <p>5 exists for a reason. So, you know, I mean, I'm 1</p> <p>6 trying to think of an analogy. I guess I'm looking</p> <p>7 at the parking lot here, and you could remove some</p> <p>8 stuff from a car, and is that core to the car? Is a</p> <p>9 tire more core to the car than an engine? I don't</p> <p>10 know. You know, I don't know how to rate one as 1</p> <p>11 more important than the other. So it's hard for me</p> <p>12 to answer that question.</p> <p>13 BY MS. HURST:</p> <p>14 Q Does Brillo have an API?</p> <p>15 MS. ANDERSON: Objection; form, beyond the 1</p> <p>16 scope.</p> <p>17 THE WITNESS: API in the sense of a set of</p> <p>18 interfaces that developers interact with, yes. If</p> <p>19 you define -- you know, oftentimes the A in API</p> <p>20 stands for application. If you mean strictly an 1</p> <p>21 Android application that resides in Google Play,</p> <p>22 then no, there are no such things on Brillo. But if</p> <p>23 you define API as an interface for developers to do</p> <p>24 their work with, then yes.</p> <p>25</p> <p style="text-align: right;">Page 125</p>

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<p>1 BY MS. HURST: 1</p> <p>2 Q You're aware that this lawsuit involves,</p> <p>3 in part, the allegation by Oracle that Google</p> <p>4 unlawfully copied 37 packages from the Java platform</p> <p>5 API, right? 1</p> <p>6 MS. ANDERSON: Objection.</p> <p>7 Just caution the witness not to disclose</p> <p>8 communications with counsel as grounds of privilege,</p> <p>9 but otherwise, you may answer.</p> <p>10 THE WITNESS: I'm familiar with the fact 1</p> <p>11 that there is allegations -- there are allegations</p> <p>12 from Oracle, yes.</p> <p>13 BY MS. HURST:</p> <p>14 Q And do you know which of the 37 packages</p> <p>15 that are at issue? 1</p> <p>16 MS. ANDERSON: Same objections.</p> <p>17 THE WITNESS: No, I'm not.</p> <p>18 BY MS. HURST:</p> <p>19 Q Can you tell me whether any of them or --</p> <p>20 in whole or in part is part of Brillo? 1</p> <p>21 MS. ANDERSON: Same objections and beyond</p> <p>22 the scope.</p> <p>23 THE WITNESS: Without knowing -- since I</p> <p>24 don't know the details of the APIs in question, it's</p> <p>25 not possible for me to answer whether they're 1</p> <p style="text-align: right;">Page 126</p>	<p>1 relate to Lollipop? Does it include all of it? 1</p> <p>2 Does it include some subset of it? Superset of it?</p> <p>3 MS. ANDERSON: Beyond the scope.</p> <p>4 THE WITNESS: It involves -- trying to</p> <p>5 describe a Venn diagram. It involves a subset and 1</p> <p>6 superset at the same time; a different set. It</p> <p>7 involves some commonality, but in some areas it has</p> <p>8 more, in some areas it has less than, let's say, a</p> <p>9 Lollipop phone.</p> <p>10 BY MS. HURST: 1</p> <p>11 Q Are you a Java programmer?</p> <p>12 A I have programmed in the Java language</p> <p>13 many years ago, predating my time at Google, just</p> <p>14 as a hobby, just to learn the language but not --</p> <p>15 never professionally and not extensively. 1</p> <p>16 Q Is your knowledge of Android sufficient</p> <p>17 that if I put the 37 package in front of you, you</p> <p>18 could tell me whether they were in Android TV, for</p> <p>19 example, the one we were just discussing?</p> <p>20 MS. ANDERSON: Beyond the scope. 1</p> <p>21 THE WITNESS: No, I don't think I could</p> <p>22 answer that question.</p> <p>23 BY MS. HURST:</p> <p>24 Q Same with respect to Brillo, Android Wear,</p> <p>25 Android TV, Android Auto, same answer? 1</p> <p style="text-align: right;">Page 128</p>
<p>1 included in Brillo or not. 1</p> <p>2 BY MS. HURST:</p> <p>3 Q Are they in Android Auto, all or any of</p> <p>4 them?</p> <p>5 A When you say "all or any of them," you're 1</p> <p>6 referring to Projected and Embedded Mode?</p> <p>7 Q I'm referring to all of Android Auto, and</p> <p>8 I'm asking whether any -- all or any of the 37</p> <p>9 packages at issue are found in Android Auto?</p> <p>10 MS. ANDERSON: Objection; beyond the 1</p> <p>11 scope.</p> <p>12 THE WITNESS: Because I don't know the</p> <p>13 details of the packages that are in question, I</p> <p>14 don't think I can answer that question.</p> <p>15 BY MS. HURST: 1</p> <p>16 Q And how about Android TV?</p> <p>17 MS. ANDERSON: Beyond the scope.</p> <p>18 THE WITNESS: Same answer. Because I</p> <p>19 don't know the details of the packages in question,</p> <p>20 I can't say for sure whether they're included or 1</p> <p>21 not.</p> <p>22 BY MS. HURST:</p> <p>23 Q Does Android TV include less than the</p> <p>24 entire Android platform? So let's just take</p> <p>25 Lollipop release, for example. How does Android TV 1</p> <p style="text-align: right;">Page 127</p>	<p>1 MS. ANDERSON: Beyond the scope. 1</p> <p>2 THE WITNESS: Whether I can identify if</p> <p>3 you showed me the packages whether they're included</p> <p>4 in those products? Yeah, that's -- I'm not close</p> <p>5 enough to the technology to be able to answer that 1</p> <p>6 with confidence.</p> <p>7 BY MS. HURST:</p> <p>8 Q Does Google earn revenue associated with</p> <p>9 its Google Maps application in any way?</p> <p>10 MS. ANDERSON: Objection; form, beyond the 1</p> <p>11 scope.</p> <p>12 THE WITNESS: I don't know.</p> <p>13 BY MS. HURST:</p> <p>14 Q What plan or strategy does Google have to</p> <p>15 economically benefit, either directly or indirectly, 1</p> <p>16 from Brillo?</p> <p>17 MS. ANDERSON: Objection; form, beyond the</p> <p>18 scope.</p> <p>19 THE WITNESS: I'm not aware of any direct</p> <p>20 form of economic benefit for Google from Brillo. 1</p> <p>21 In terms of indirect, I guess you could</p> <p>22 make a similar sort of point that I was making</p> <p>23 earlier on the phone side, which is if someone</p> <p>24 decides to build a device using Brillo that somehow</p> <p>25 connects them to the Internet and somehow access 1</p> <p style="text-align: right;">Page 129</p>

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<p>1 Google services, then I guess that could potentially 1 2 be a gain for Google. But it's somewhat 3 hypothetical. 4 Again, products haven't launched. We 5 don't know what type of products are going to come 1 6 out. You know, if someone decides -- a manufacturer 7 decides to build a washing machine with Brillo, 8 which is not out of -- sort of out of the question, 9 I don't -- I don't know, you know, what sort of 10 direct or indirect benefit there would be for Google 1 11 at that point. 12 BY MS. HURST: 13 Q Is your strategy for Brillo purely 14 defensive, that is, you're just trying to make sure 15 that nobody else gets a foothold and drives out 1 16 Android on phones through Internet of Things in the 17 home? 18 MS. ANDERSON: Objection; form, beyond the 19 scope. 20 THE WITNESS: I wouldn't characterize it 1 21 that way. I think it goes back to one of the 22 guiding principles of how, at least, I think about 23 products, which is, build things that people want, 24 and, you know, in the case of Brillo, I explained 25 it, a benefit that we believe we bring also to the 1 Page 130</p>	<p>1 MS. ANDERSON: Same objections. 1 2 THE WITNESS: I don't even think that's a 3 goal, per se. I think -- I know you don't like to 4 hear this answer, but I'll mention it again. 5 One of the benefits for Google is actually 1 6 having customers who like using products that were 7 built with Google or has some sort of Google 8 association with it, whether it's technical behind 9 the scenes or it's an actual product, end user 10 visible products. These are benefits for Google. 1 11 So I -- I -- I know you told me not to 12 answer in that context, but that is the true answer. 13 So I don't know how else to answer it. 14 BY MS. HURST: 15 Q Well, it's only a benefit to Google if 1 16 those customers using those products and services if 17 ultimately you find a way to make money off of them, 18 right? Otherwise, it's just a cost? 19 MS. ANDERSON: Objection; form, beyond the 20 scope. 1 21 THE WITNESS: I don't necessarily agree, 22 actually. I think you could -- for instance, you 23 could say that -- first of all, for Brillo devices, 24 it's really up to the manufacturer to decide what 25 the products are and the success of those particular 1 Page 132</p>
<p>1 industry, which is a lot of these manufacturers are 1 2 already familiar with the low level, you know, the 3 kernel and drivers of Android. So it's -- it's a 4 convenience for them as well, so we feel that that's 5 a win-win scenario. 1 6 BY MS. HURST: 7 Q I really want to focus on the benefit to 8 Google now, not the benefit to the consumers and the 9 manufacturers or whoever else you might consider, 10 all right? 1 11 For the benefit of Google, is it true that 12 your strategy for Brillo is purely defensive; that 13 is, you're just trying to make sure that nobody else 14 gets a foothold on devices in the phone -- in the 15 home that might ultimately drive out Android? 1 16 MS. ANDERSON: Same objections. 17 THE WITNESS: Well, you said "purely," so 18 if that -- "purely" means "exclusively," then I 19 disagree with your statement. 20 BY MS. HURST: 1 21 Q Okay. 22 Is it true that one goal for your strategy 23 with Brillo is to make sure that nobody else gets a 24 foothold in the home using Internet of Things that 25 might drive out the Android platform? 1 Page 131</p>	<p>1 products, whether it's a washing machine or traffic 1 2 signal or whatever it is, is really up to the 3 manufacturer to make it a success or not. 4 So Google is not in direct control over 5 the -- the success or, you know, the fate of these 1 6 products. 7 But one of the benefits obviously is if 8 these products are successful, certainly it benefits 9 the manufacturer, but it also benefits Google in 10 that these manufacturers are being successful using 1 11 the technical underpinnings of Android. And, again, 12 the technical underpinnings that I'm referring to is 13 the kernel and drivers, and that if you take the 14 long view is a benefit for Google and Android 15 because that means there are more engineers who are 1 16 familiar with some portion of Android, that's a good 17 thing for us in terms of industry adoption of 18 Android. 19 BY MS. HURST: 20 Q Well, why is just industry adoption 1 21 valuable to you? 22 A I don't know if I said "just industry 23 adoption," so I don't know if -- what you're 24 implying by "just." 25 Q Well, I think we've been systematically 1 Page 133</p>

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<p>1 excluding everything else, right? You're not 1</p> <p>2 charging for it, you know, if consumers use it, and</p> <p>3 that doesn't result in any money to you, you know.</p> <p>4 We're down now to you disagreed with me that your --</p> <p>5 your strategy for benefiting was only if you find a 1</p> <p>6 way to make money off of them, and the reason you</p> <p>7 disagreed with me because you said at the base</p> <p>8 level, if you take the long view, it's good for you</p> <p>9 to have industry adoption. So we've excluded making</p> <p>10 money, and now you're just down to industry 1</p> <p>11 adoption.</p> <p>12 How is that beneficial to you?</p> <p>13 A Well, I didn't say that was the only</p> <p>14 benefit. But that's certainly one of the benefits</p> <p>15 is industry awareness and adoption of Android. 1</p> <p>16 In other ways that could benefit us, who</p> <p>17 knows? Like I said, it's a long game. We don't</p> <p>18 know how this industry will evolve, how these</p> <p>19 products will evolve, what sort of services will</p> <p>20 take off and not take off. So it's an investment, 1</p> <p>21 and -- and we'll see how it plays out.</p> <p>22 Q So how many people are working on Brillo,</p> <p>23 any aspect of it, whether it be developing it,</p> <p>24 deploying it, selling it, making prototypes,</p> <p>25 whatever? 1</p> <p style="text-align: right;">Page 134</p>	<p>1 scope. 1</p> <p>2 THE WITNESS: It's certainly not, you</p> <p>3 know, a dollar per person. It's higher than that,</p> <p>4 but I don't know, you know, how much higher than</p> <p>5 that. 1</p> <p>6 BY MS. HURST:</p> <p>7 Q Is Google investing in 50-people headcount</p> <p>8 on Brillo this year with any plan or strategy for</p> <p>9 economic return in the future?</p> <p>10 MS. ANDERSON: Objection; form. 1</p> <p>11 THE WITNESS: No, I haven't seen a P&L or</p> <p>12 a presentation or anything like that that says by</p> <p>13 year -- whatever year, you know, the second year,</p> <p>14 third year, fifth year, tenth year, Brillo is going</p> <p>15 to make X amount of dollars. I've never seen 1</p> <p>16 anything like that.</p> <p>17 It's pretty typical at Google and many</p> <p>18 companies, in fact, to invest in new technology</p> <p>19 areas and -- and try out new things. That's --</p> <p>20 that's what we're doing here. This is how 1</p> <p>21 innovations happen.</p> <p>22 MS. ANDERSON: The lunch is here, by the</p> <p>23 way.</p> <p>24 MS. HURST: Well, why don't we stop there,</p> <p>25 then. 1</p> <p style="text-align: right;">Page 136</p>
<p>1 A I don't know the exact number. 1</p> <p>2 Q Can you approximate?</p> <p>3 A Sure, an approximation probably is 50</p> <p>4 people, something like that.</p> <p>5 Q And how much is that costing you in 1</p> <p>6 headcount this year?</p> <p>7 A Well, it's 50 people, so it's 50 heads.</p> <p>8 Q How much is it costing you? How much are</p> <p>9 you paying those people? How much is Google -- how</p> <p>10 much is it costing Google to pay those 50 people 1</p> <p>11 this year?</p> <p>12 MS. ANDERSON: Beyond the scope.</p> <p>13 THE WITNESS: So you're talking about the</p> <p>14 OPEX. I don't actually know how to translate from</p> <p>15 headcount into OPEX. 1</p> <p>16 BY MS. HURST:</p> <p>17 Q Can you approximate?</p> <p>18 MS. ANDERSON: Beyond the scope.</p> <p>19 THE WITNESS: We can guess. We can -- we</p> <p>20 can come up with an average salary for someone, but 1</p> <p>21 I have no idea what else we need to consider.</p> <p>22 BY MS. HURST:</p> <p>23 Q Do you think it's \$2 million? \$3 million?</p> <p>24 \$10 million? What you do you think?</p> <p>25 MS. ANDERSON: Objection; form, beyond the 1</p> <p style="text-align: right;">Page 135</p>	<p>1 THE VIDEOGRAPHER: We are off the record 1</p> <p>2 at 12:47 p.m.</p> <p>3 (Lunch recess taken.)</p> <p>4 THE VIDEOGRAPHER: We are back on the</p> <p>5 record at 1:31 p.m.</p> <p>6 BY MS. HURST:</p> <p>7 Q How does Google use the term "next</p> <p>8 billion"?</p> <p>9 MS. ANDERSON: Objection; vague -- excuse</p> <p>10 me, objection; form.</p> <p>11 THE WITNESS: Well, I think it really</p> <p>12 depends on who's saying it and the context in which</p> <p>13 it's used.</p> <p>14 BY MS. HURST:</p> <p>15 Q Well, have you used -- seen that phrase,</p> <p>16 "next billion users" within Google?</p> <p>17 A Sure.</p> <p>18 Q Okay.</p> <p>19 And how have you seen it used?</p> <p>20 A Well, it refers to a -- a project, I</p> <p>21 guess, or a group of people working on a project.</p> <p>22 That's what it refers to.</p> <p>23 Q And what is that project?</p> <p>24 A It's to make -- in a nutshell, it's to --</p> <p>25 it's to attempt to find ways to make Google</p> <p style="text-align: right;">Page 137</p>

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<p>1 services more useful and more appealing to 2 customers in what we call emerging markets. 3 Q What is Android One? 4 A Android One is an initiative around 5 bringing low-cost but very high-quality phones to 6 the emerging markets, so it's a brand that 7 manufacturers can adopt if they -- if they adhere 8 to certain guidelines. It's a brand that they can 9 use to market their device that -- that to 10 customers, end users, signifies high quality, low 11 cost, always having the latest version of the 12 operating system, security updates and so on. 13 Q Have you modified the Android platform in 14 any way in connection with Android One? 15 A Have we modified the Android platform in 16 any way? 17 Q Uh-huh. 18 A Well, we're always making modifications 19 to the Android platform. Some changes have been 20 inspired by needs in the emerging market and -- 21 emerging markets, and Android One certainly has 22 been a catalyst for some of these changes. 23 Q Is there a separate version of the Android 24 platform for Android One? 25 MS. ANDERSON: Beyond the scope.</p> <p style="text-align: right;">Page 138</p>	<p>1 "fragmentation" is it means many things to many 2 different people. And so that's why I'm trying to 3 be very precise with what -- which form of 4 "fragmentation" you want me to talk about. 5 BY MS. HURST: 6 Q What did you mean when you put it in your 7 Android SDK agreements? 8 MS. ANDERSON: Objection; form. 9 THE WITNESS: I would need to see the 10 agreement. I don't remember. 11 BY MS. HURST: 12 Q So you don't have any idea what the 13 anti-fragmentation provision in your Android SDK 14 agreement says or means? 15 MS. ANDERSON: Objection; form, beyond the 16 scope. 17 THE WITNESS: I don't remember what the 18 SDK agreement says. So if you have a copy of it, 19 I'd love to take a look at it. 20 BY MS. HURST: 21 Q As you sit here right now, can you tell 22 me, is there an anti-fragmentation provision in any 23 Android SDK agreement? 24 MS. ANDERSON: Beyond the scope. 25 THE WITNESS: I'm not sure.</p> <p style="text-align: right;">Page 140</p>
<p>1 THE WITNESS: No, there is not. 2 BY MS. HURST: 3 Q What strategies or tactics have you used 4 in order to avoid a fragmentation of the Android 5 platform? 6 MS. ANDERSON: Objection; form. 7 THE WITNESS: Can you define 8 "fragmentation"? 9 BY MS. HURST: 10 Q Lack of compatibility among various 11 versions of Android, to start. 12 A Lack of compatibility between various 13 versions of Android. So when you say "various 14 versions of Android," do you mean, for instance, 15 Marshmallow and Lollipop and things like that? 16 Q I mean, broadly speaking, everything that 17 you call Android or is in any way associated with 18 it. 19 MS. ANDERSON: Objection; form. 20 BY MS. HURST: 21 Q So don't limit your answer to anything. 22 MS. ANDERSON: Objection; form. 23 THE WITNESS: Well, the thing about the -- 24 I think I'm on record in various publications for 25 saying this as well, but the thing with the term</p> <p style="text-align: right;">Page 139</p>	<p>1 BY MS. HURST: 2 Q Has Google ever had a strategy to avoid 3 fragmentation by putting a provision in the Android 4 SDK agreement? 5 A In the Android SDK agreement, I'm not 6 sure. 7 Q Have you ever read the Android SDK 8 agreement, any version of it? 9 MS. ANDERSON: Beyond the scope. 10 THE WITNESS: I'm not sure. I'd have to 11 take a look to see if it jogs my memory. 12 BY MS. HURST: 13 Q As you sit here now, can you tell me what 14 plan or strategy associated with Android Google was 15 pursuing by including in its Android SDK agreement a 16 prohibition on developers taking any actions that 17 may cause or result in the fragmentation of Android? 18 MS. ANDERSON: Objection; form, beyond the 19 scope. 20 THE WITNESS: Like I said, I don't -- I 21 don't remember what the Android SDK agreement says, 22 so it's hard for me to answer these questions 23 without knowing what the agreement actually says -- 24 BY MS. HURST: 25 Q Well --</p> <p style="text-align: right;">Page 141</p>

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<p>1 A -- in its entirety in context.</p> <p>2 Q I'm just asking: As you sit here now, can</p> <p>3 you tell me what plan or strategy Google was</p> <p>4 pursuing by including in its Android SDK agreement a</p> <p>5 prohibition on developers taking any action that may</p> <p>6 cause or result in the fragmentation of Android?</p> <p>7 MS. ANDERSON: Same objections.</p> <p>8 THE WITNESS: Well, I wasn't -- if an</p> <p>9 Android SDK agreement exists, I wasn't involved in</p> <p>10 the creation of it, so I would -- I would at this</p> <p>11 point -- if you're asking me to speculate or sort of</p> <p>12 guess, I guess I could do that. I'd prefer not to.</p> <p>13 BY MS. HURST:</p> <p>14 Q Tell me anything that you can tell me</p> <p>15 about what plan or strategy Google was pursuing by</p> <p>16 including in its Android SDK agreement a prohibition</p> <p>17 on developers taking any action that may cause or</p> <p>18 result in the fragmentation of Android.</p> <p>19 MS. ANDERSON: Objection; form, beyond the</p> <p>20 scope.</p> <p>21 THE WITNESS: As I said, I don't know what</p> <p>22 the Android SDK says about fragmentation, if it even</p> <p>23 says anything about it. So it's hard for me to</p> <p>24 comment on that.</p> <p>25</p> <p style="text-align: right;">Page 142</p>	<p>1 well.</p> <p>2 BY MS. HURST:</p> <p>3 Q Why bother having an agreement, then? Why</p> <p>4 not just give it away? It's all for free. It's</p> <p>5 just for the benefit of consumers. You're not</p> <p>6 planning to make any money on it. Why even have an</p> <p>7 agreement, Mr. Lockheimer?</p> <p>8 MS. ANDERSON: Objection; form and it's</p> <p>9 beyond the scope.</p> <p>10 THE WITNESS: Again, without seeing the</p> <p>11 agreement, it's hard for me to talk about it in the</p> <p>12 abstract.</p> <p>13 BY MS. HURST:</p> <p>14 Q You have no idea whatsoever, as you sit</p> <p>15 here right now, what role the Android SDK agreement</p> <p>16 plays in your strategies or plans for Android; is</p> <p>17 that right?</p> <p>18 MS. ANDERSON: Same objections.</p> <p>19 THE WITNESS: No. What I was saying was</p> <p>20 with regard to -- you were talking about</p> <p>21 fragmentation. With regard to fragmentation and the</p> <p>22 Android SDK agreement, I don't know.</p> <p>23 Now, if your question is, why does the</p> <p>24 Android SDK agreement exist at all, I can take a</p> <p>25 stab at that.</p> <p style="text-align: right;">Page 144</p>
<p>1 BY MS. HURST:</p> <p>2 Q So there's nothing at all that you can</p> <p>3 tell me about that?</p> <p>4 MS. ANDERSON: Same objections.</p> <p>5 THE WITNESS: I was not involved in the</p> <p>6 creation of the Android SDK agreement, if such a</p> <p>7 thing exists, so I don't know what was thought of</p> <p>8 when they created it, whoever created it.</p> <p>9 BY MS. HURST:</p> <p>10 Q You understand, again, you're here to</p> <p>11 testify on behalf of Google, not just the things</p> <p>12 that you personally have been involved in, right?</p> <p>13 A Yes, I understand.</p> <p>14 Q And would you agree that the agreements</p> <p>15 for the Android SDK are an important part of your</p> <p>16 plans for that product?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: I'm not sure. I mean, there</p> <p>19 are many aspects of Android. As I mentioned</p> <p>20 earlier, I've worked on Android for nine and a half</p> <p>21 years, and it's not something I've had to deal with</p> <p>22 extensively, so I guess by that definition, maybe</p> <p>23 you could argue it's not the most important thing.</p> <p>24 I'm not saying it's not important, but there's</p> <p>25 certainly a lot of other things that I deal with as</p> <p style="text-align: right;">Page 143</p>	<p>1 BY MS. HURST:</p> <p>2 Q Well, my question was: Would you agree</p> <p>3 that the agreements for the Android SDK are an</p> <p>4 important part of your plans for Android?</p> <p>5 MS. ANDERSON: There's no question</p> <p>6 pending.</p> <p>7 THE WITNESS: Sorry, I'm waiting for your</p> <p>8 question.</p> <p>9 BY MS. HURST:</p> <p>10 Q That is my question. That's my question.</p> <p>11 A Say that again.</p> <p>12 Q Are the agreements for the Android SDK an</p> <p>13 important part of your plans for Android?</p> <p>14 MS. ANDERSON: Objection; form.</p> <p>15 BY MS. HURST:</p> <p>16 Q "Yes" or "no"?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: The agreement exists, I</p> <p>19 assume, for a reason, but it's not -- if you're</p> <p>20 asking if it's the most important thing for the</p> <p>21 Android strategy, I would disagree with that</p> <p>22 characterization.</p> <p>23 BY MS. HURST:</p> <p>24 Q Just is it your recollection that I said,</p> <p>25 is it the most important thing?</p> <p style="text-align: right;">Page 145</p>

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<p>1 A I'm having a tough time understanding 2 your question so -- 3 MS. HURST: Why don't we have the court 4 reporter read it back this time. 5 THE WITNESS: Sure. 6 MS. HURST: Maybe that will help. 7 (Record read as follows: 8 "Q Are the agreements for the 9 Android SDK an important part of 10 your plans for Android?") 11 THE WITNESS: I think the agreements for 12 the Android SDK -- or agreement -- I think there's 13 only one -- is a part of how we work with developers 14 on Android. There are many other aspects of how we 15 work with developers, including providing them with 16 an SDK to begin with, providing them with an 17 ecosystem of devices that they can run their 18 applications on so that they can make a living. 19 Selling applications is another thing that we do 20 with them, so there's many things that we do with 21 developers, not just the -- the -- an agreement. 22 BY MS. HURST: 23 Q I'm just wondering, did you hear me ask 24 about the other things, or did I ask about the 25 Android SDK agreement?</p> <p style="text-align: right;">Page 146</p>	<p>1 perspective, the amount of time that they spend 2 thinking about the SDK agreement is probably 3 de minimus. The amount of time they actually work 4 on the SDK to build applications dominates, right? 5 So this is why I don't know how to 6 characterize whether it's important or not. 7 Q I'm just -- the question is: Is it an 8 important part of your plan for Android? Not is it 9 an important part of the way the customer sees it, 10 not is it an important part of the relationship. 11 This is the question: Is it -- is the SDK 12 agreement an important part of your plan, that is, 13 you, Google's plan for Android? I'm not asking you 14 to speak on behalf of the end user, I'm not asking 15 you to speak on behalf of Samsung. Just asking you 16 to speak on behalf of Google. 17 Is the Android SDK agreement -- yes, no or 18 I don't know -- an important part of your plan for 19 Android? 20 MS. ANDERSON: Objection; form. 21 THE WITNESS: Working with developers is 22 an important part of Android. I don't know how to 23 characterize the SDK agreement specifically in 24 isolation. 25</p> <p style="text-align: right;">Page 148</p>
<p>1 MS. ANDERSON: Objection; form. 2 THE WITNESS: You asked me about a lot of 3 things, including the SDK agreement as well as 4 fragmentation, so this why I'm a little bit confused 5 as to what you're getting at. 6 BY MS. HURST: 7 Q Let me just repeat the question again. 8 There's just this one question now pending. 9 Is the agreement for the Android SDK an 10 important part of your plan for Android? 11 A I really don't know how to answer that 12 because, as I mentioned, there are many things that 13 we do with developers. "Important" would imply a 14 certain sort of prioritization. I would say we do 15 many things with developers that all serve their 16 purposes. 17 Q So you can't answer the question? 18 A I think you're asking me to say whether 19 it's important or not, and I don't know how to 20 characterize it that way. That's not how I think 21 about it. The way I think about it is the total 22 working relationship with the developer. 23 The SDK agreement is one small part of 24 that, but there are, you know -- if -- for 25 instance, if you look at it from a developer's</p> <p style="text-align: right;">Page 147</p>	<p>1 BY MS. HURST: 2 Q Well, it's the agreement that defines, at 3 least in part, the legal terms of your relationship 4 with those -- those entities, right? 5 MS. ANDERSON: Objection; form. 6 THE WITNESS: As you know, I'm not a 7 lawyer so I don't know how -- you know, the legal 8 terms, if that has a specific meaning to you or not, 9 I don't know. But I would say in practical terms 10 for a developer relationship, which is what you're 11 asking about, it's really about how they build 12 applications for the Android platform. It's really 13 not about an agreement. 14 MS. HURST: Move to strike as 15 nonresponsive. 16 MS. ANDERSON: Opposed. 17 BY MS. HURST: 18 Q So let me just -- 19 Have you ever read the Android SDK? 20 A I'm not sure. 21 Q So as all of your years, your nine years 22 of working on Android, and in your role as the 23 Senior Vice President for Android, you don't care 24 what's in the Android SDK; is that right? 25 MS. ANDERSON: Objection; form.</p> <p style="text-align: right;">Page 149</p>

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<p>1 THE WITNESS: That's absolutely not what I</p> <p>2 said. You said, do I not care about what's in the</p> <p>3 Android SDK; that's categorically untrue. I care a</p> <p>4 lot about what's in the Android SDK.</p> <p>5 BY MS. HURST:</p> <p>6 Q Because it's important, isn't it?</p> <p>7 A The Android SDK. You're asking about the</p> <p>8 Android SDK agreement. The Android SDK is</p> <p>9 absolutely very important for developers so that</p> <p>10 they can do their job to build applications for --</p> <p>11 Q Pardon me.</p> <p>12 In your nine years of working on Android</p> <p>13 in your role as the Senior Vice President for</p> <p>14 Android, you don't care what's in the Android SDK</p> <p>15 terms and conditions; is that true?</p> <p>16 MS. ANDERSON: Objection; form.</p> <p>17 THE WITNESS: That's not true. I wouldn't</p> <p>18 say I don't care. I would say that there are many</p> <p>19 other people within the organization who think about</p> <p>20 this, and -- and I trust them to do their jobs well</p> <p>21 to -- to make sure that it's appropriately done.</p> <p>22 BY MS. HURST:</p> <p>23 Q And do you think they would say it was an</p> <p>24 important part of your plan for Android, since you</p> <p>25 can't tell me?</p> <p style="text-align: right;">Page 150</p>	<p>1 not take any actions that may cause</p> <p>2 or result in the fragmentation of</p> <p>3 Android, including, but not limited</p> <p>4 to, distributing, participating in</p> <p>5 the creation of or promoting in any</p> <p>6 way a software development kit</p> <p>7 derived from the SDK."</p> <p>8 BY MS. HURST:</p> <p>9 Q Does it strike you that that's an</p> <p>10 anti-fragmentation provision?</p> <p>11 MS. ANDERSON: Objection; form, beyond the</p> <p>12 scope.</p> <p>13 THE WITNESS: Well, if -- if you are</p> <p>14 saying "anti-fragmentation" is a specific term,</p> <p>15 well, that term doesn't appear here, but I take it</p> <p>16 for, you know, literally what it says.</p> <p>17 It says:</p> <p>18 "You agree that you will not</p> <p>19 take any actions that may cause or</p> <p>20 result in the fragmentation of</p> <p>21 Android, including, but not limited</p> <p>22 to, distributing, participating in</p> <p>23 the creation of or promoting in any</p> <p>24 way a software development kit</p> <p>25 derived from the SDK."</p> <p style="text-align: right;">Page 152</p>
<p>1 MS. ANDERSON: Objection; form.</p> <p>2 THE WITNESS: I can't speculate what</p> <p>3 someone else would say.</p> <p>4 MS. HURST: Exhibit 5014 is the Android</p> <p>5 Developers Terms and Conditions printed</p> <p>6 December 5th, 2015, from Internet Archive.</p> <p>7 (Deposition Exhibit 5014 marked</p> <p>8 for identification.)</p> <p>9 BY MS. HURST:</p> <p>10 Q Mr. Lockheimer, please turn to paragraph</p> <p>11 3.4 of the Android SDK terms and conditions.</p> <p>12 A 3.4, you said?</p> <p>13 Q 3.4.</p> <p>14 A Okay.</p> <p>15 Q Do you have 3.4 in front of you?</p> <p>16 A It's at the top of the second page, yes.</p> <p>17 Q Could you just read out loud into the</p> <p>18 record for us paragraph 3.4 of Exhibit 5014.</p> <p>19 MS. ANDERSON: Objection; form, beyond the</p> <p>20 scope.</p> <p>21 THE WITNESS: You want me to read it out</p> <p>22 loud?</p> <p>23 MS. HURST: Please.</p> <p>24 THE WITNESS: (Reading):</p> <p>25 "3.4. You agree that you will</p> <p style="text-align: right;">Page 151</p>	<p>1 I just take it at face value for what it</p> <p>2 says.</p> <p>3 BY MS. HURST:</p> <p>4 Q So does it strike you that that's an</p> <p>5 anti-fragmentation provision?</p> <p>6 MS. ANDERSON: Objection; form, beyond the</p> <p>7 scope.</p> <p>8 THE WITNESS: I don't know how I would</p> <p>9 characterize it. I'd characterize it as exactly</p> <p>10 what it says. It says:</p> <p>11 "You agree that you will not</p> <p>12 take any actions that may cause or</p> <p>13 result in the fragmentation of</p> <p>14 Android, including, but not limited</p> <p>15 to, distributing, participating in</p> <p>16 the creation of or promoting in any</p> <p>17 way a software development kit</p> <p>18 derived from the SDK."</p> <p>19 BY MS. HURST:</p> <p>20 Q Have you ever had a strategy or plan for</p> <p>21 avoiding fragmentation of Android?</p> <p>22 MS. ANDERSON: Objection; form.</p> <p>23 THE WITNESS: You're talking in general</p> <p>24 now or are you talking about 3.4?</p> <p>25</p> <p style="text-align: right;">Page 153</p>

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<p>1 BY MS. HURST: 2 Q I'm talking about whatever Google meant 3 when it put out an agreement for all of its 4 developers that said you will not take an action 5 resulting in the fragmentation of Android, whatever 6 Google meant -- 7 MS. ANDERSON: Objection; form. 8 BY MS. HURST: 9 Q -- who you are here to testify on behalf 10 of today. 11 MS. ANDERSON: Objection; form. 12 BY MS. HURST: 13 Q Has Google ever had a strategy or plan for 14 avoiding fragmentation of Android? 15 MS. ANDERSON: Objection; form. 16 THE WITNESS: Well, if -- if by 17 "fragmentation" we're talking about -- let's look at 18 it from the user's perspective, because that's -- 19 that's again, the going -- common theme here. What 20 we think about is often driven by doing the right 21 thing for the customer, the end user. 22 So as an end user, if you -- let's say you 23 buy a Samsung phone and you download some 24 applications from Google Play, and now, let's say, 25 you later switch to an HTC phone. Your expectation</p> <p style="text-align: right;">Page 154</p>	<p>1 what they're building is, quote, compatible and 2 consistent across all brands. 3 So the way we accomplish that is through 4 a couple of mechanisms, at least a couple of 5 mechanisms. One of them is the CDD or the 6 compatibility definition document. Now, that's a 7 document that manufacturers consult when they're 8 designing a device or when they're specifying a 9 device; when they're deciding what to build, they 10 consult this document, the compatibility 11 definition document, to decide what the 12 capabilities of that device should be in order to 13 be compatible with Android. Things like how big 14 can a screen be, how many pixels can the screen 15 have, what sort of sensors should be on this 16 phone, and so on. It's all written and publicly 17 available. 18 And so the first step is for a 19 manufacturer to decide that they want to build a 20 compatible device. When they decide that they 21 want to build a compatible device, they consult 22 the CDD, compatibility definition document, to 23 ensure that the device that they're about to build 24 complies with these requirements, and then once 25 they're sort of nearing the completion of this</p> <p style="text-align: right;">Page 156</p>
<p>1 would be that because both of these phones are 2 running Android, these applications would run. The 3 same applications that ran on your Samsung phone 4 would run on your HTC phone. 5 If that weren't the case, that would be a 6 problem for -- for end users. So from that 7 perspective, if you define that as fragmentation, 8 that would be a bad thing, and that's certainly 9 something that we strive to avoid. 10 BY MS. HURST: 11 Q And why would that be a bad thing? 12 A For customers, I believe their 13 expectation is that when they buy an application or 14 download an application, whether it's free or, you 15 know, paid, that it works across all devices that 16 are Android. That's their expectation. 17 Q And what have you done to ensure that's 18 the case? What strategy or plan have you pursued to 19 ensure that's the case? 20 A Well, there's a number of things. There 21 are a number of things that we've done. Most of 22 this is on now the manufacturer's side. So when 23 the -- when the phone is being manufactured, 24 designed and developed, we need to make sure we 25 work closely with the manufacturer to ensure that</p> <p style="text-align: right;">Page 155</p>	<p>1 device, they run a test suite called Compatibility 2 Test Suite, CTS, to ensure that what they've built 3 is, in fact, compatible. 4 And what the Compatibility Test Suite 5 does is it's literally source code that we make 6 available to everyone for free, and the 7 manufacturer downloads it, runs it on their device 8 that they're in the middle of development of 9 before it's available to consumers or developers, 10 runs it on their device, and this test suite will 11 actually run through literally thousands of tests 12 on the device, making sure that all the APIs, for 13 instance, are compatible, all the -- the -- the 14 features are -- are built in a compatible manner, 15 and it gives a set of pass/fail results. 16 So when a manufacturer is trying to ship 17 their device, they run this CTS after they've 18 consulted with the CDD and built the device in 19 accordance with the CDD, they run the -- 20 (Reporter clarification.) 21 THE WITNESS: Sorry. After they've 22 consulted the CDD and have built the device that 23 they believe is compatible, they now verify that 24 using the CTS by running these tests on the device. 25 They will get pass/fail results and, you know, when</p> <p style="text-align: right;">Page 157</p>

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<p>1 the device is passing, they know that they can ship 2 the device in a compatible form. 3 And so your question was, how do -- what 4 has Google done to ensure compatibility, or another 5 way of putting it is ensuring that there isn't this 6 form of incompatibility or fragmentation, and those 7 are two examples of what we've done. 8 BY MS. HURST: 9 Q And the two examples that you just 10 described of means that Google has used to avoid 11 fragmentation are the CDD and the CTS, correct? 12 A The two examples I just gave are, in 13 fact, the CTS and the CDD Compatibility Test Suite 14 and compatibility definition document, and those 15 are just two examples of what Google has done to 16 ensure that manufacturers can confidently build a 17 device that is compatible with the Android 18 ecosystem. 19 Q What other strategies have you pursued to 20 ensure that manufacturers can confidently build a 21 device compatible with the Android ecosystem? 22 A We have -- a lot of this comes down to 23 education also, so we've written a lot of 24 documentation about this. I guess you could say 25 the CDD is a form of documentation. It describes</p> <p style="text-align: right;">Page 158</p>	<p>1 that we -- we sign with the manufacturers. 2 Q And do these anti-fragmentation agreements 3 require anything of the manufacturers? 4 MS. ANDERSON: Objection; form. 5 THE WITNESS: Well, the anti-fragmentation 6 agreements are entirely voluntary. So a 7 manufacturer decides that they want to build 8 compatible Android devices. So when you say 9 requires of them, I mean, they are -- they are 10 seeking information from us on how to build 11 compatible applications, and so we highlight to them 12 how they do it and what their obligations are in 13 doing so. 14 BY MS. HURST: 15 Q What are the obligations of the 16 anti-fragmentation agreement that are on the 17 manufacturers? 18 MS. ANDERSON: Objection; form, beyond the 19 scope. 20 THE WITNESS: One of the obligations, and 21 this is mutual -- mutually desired outcome, because, 22 again, they've decided that they want to build these 23 compatible devices, is that they won't, in fact, 24 quote, fragment the Android API set. 25</p> <p style="text-align: right;">Page 160</p>
<p>1 what's compatible and what's not. 2 But we also have a team of 3 partner/engineers who -- one of their jobs is to 4 make sure that they discuss compatibility with the 5 partners that they're responsible for. So they 6 will go out there and visit the partners or the 7 partners will visit us typically in the early 8 stages of the relationship is when this education 9 happens. 10 Obviously if the manufacturer has been 11 building compatible Android devices for a while, 12 they don't need to be re-educated on this, but in 13 the early days of a relationship, this is the kind 14 of education we go through, and so I would say in 15 the early days of Android, 2008, 2007, 2009, 16 that's when a lot of those conversations were 17 happening. 18 At this point, most -- most 19 manufacturers know how -- how the process works. 20 Q Any other strategies that you've pursued 21 to avoid fragmentation within the Android ecosystem? 22 A Well, we have an agreement with 23 manufacturers known as the anti-fragmentation 24 agreement, or AFA for short, that also describes 25 basically what we talked about, in a short document</p> <p style="text-align: right;">Page 159</p>	<p>1 BY MS. HURST: 2 Q But it's true, right, that since Android 3 is an open source project, people can take it and 4 fragment it? 5 MS. ANDERSON: Objection; form. 6 THE WITNESS: People can certainly, given 7 how we've released Android in open source form with 8 Apache 2.0 license, or vast majority of Android is 9 Apache 2.0, they are able to take the source code 10 and do whatever they want with it. 11 Now, there are -- it's a choice that the 12 manufacturers make, basically. Do they want a free 13 operating system and just use it to do whatever they 14 want with it? Do they want a free operating system 15 that they can customize, but they -- they want to 16 participate in the Google Play ecosystem and have 17 applications? In which case, they, you know, do 18 what I described earlier about the -- with regard to 19 the CDD and the CTS to go through the compatibility. 20 And so manufacturers really have a choice on what 21 type of device they want to make, and how they want 22 to use the OS will determine sort of what -- what 23 they are able to do with it. 24 BY MS. HURST: 25 Q And how many of the manufacturers choose</p> <p style="text-align: right;">Page 161</p>

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<p>1 to participate in the ecosystem versus simply taking 2 a free source code and operating system and doing 3 whatever they want with it? 4 MS. ANDERSON: Objection; form, beyond the 5 scope. 6 THE WITNESS: Well, the free, do whatever 7 you want with it mode, they're under no obligation 8 to tell us, so we have no idea how many people are 9 doing that. So it's hard to know what that number 10 is. 11 In terms of how many people have signed, 12 for instance, AFA or have gone through CTS, that's 13 certainly something that is known to us. I don't, 14 off the top of my head, happen to know that number, 15 but if I were to estimate, it's -- you know, it's in 16 the dozens or low 100s. 17 BY MS. HURST: 18 Q Well, you've certainly heard of people 19 forking Android? 20 A I've heard of that phrase, similar to 21 fragmentation term. "Forking" means a lot of 22 things to a lot of different people, so it 23 really -- every time I hear that term, it always 24 makes me wonder what do they actually mean when 25 they say that.</p> <p style="text-align: right;">Page 162</p>	<p>1 BY MS. HURST: 2 Q And is it true that you have, as a 3 strategy at Google, created a series of incentives 4 designed to try to avoid others from doing something 5 similar to what Amazon has done? 6 MS. ANDERSON: Objection; form. 7 THE WITNESS: I think the -- the incentive 8 that exists for a device manufacturer is really up 9 to them to decide whether it's an incentive or not, 10 right? And the way incentives work is the person 11 who's on the other side of it has to agree that 12 there's value for them to do whatever it is. 13 So -- so in the case of Android 14 manufacturers -- let's take, again, Samsung as an 15 example -- they decided that Samsung, HTC, LG, 16 Motorola, for example, or Huawei, these 17 manufacturers have all decided that they want to 18 have a thriving ecosystem of applications that are 19 compatible so that they don't have to go build an 20 app ecosystem on their own. 21 Building an app ecosystem is -- is pretty 22 costly and time -- time intensive, and it's just a 23 lot of work to go build that, because you have to go 24 work with literally hundreds of thousands, if not 25 millions, of application developers to convince them</p> <p style="text-align: right;">Page 164</p>
<p>1 Q Well, in this case, we mean building an 2 incompatible version of Android. 3 Do you understand that? 4 A So when you say an incompatible version 5 of Android, do you mean a manufacturer that hasn't 6 gone through CDD and CTS, or do you mean a 7 manufacturer who's just doing whatever they want 8 with no intention of having applications, for 9 instance, on their device? 10 Q Well, either. Have you heard of anybody 11 doing either of those things? 12 A Yes, I have. 13 Q Okay. 14 Is Amazon one of the parties that you've 15 heard of doing that? 16 MS. ANDERSON: Objection; form, beyond the 17 scope. 18 THE WITNESS: I have heard Amazon has 19 publicly in their documentation, for instance -- and 20 I think marketing even have mentioned that their 21 devices are based on the Android source code, but to 22 the best of my knowledge, their devices -- and I'm 23 talking about the Kindle devices now specifically -- 24 have not gone through CTS or CDD officially. 25</p> <p style="text-align: right;">Page 163</p>	<p>1 to write software for your platform. 2 And one of the benefits of Android was we 3 pooled all the manufacturers together through their 4 common interest -- this was their desire to work 5 together -- so that there's a common pool of devices 6 across multiple different manufacturers that all ran 7 the same set of applications. And that, we thought, 8 collectively, would make it easier to convince 9 application developers to invest their energies in 10 building applications for that platform. 11 BY MS. HURST: 12 Q So in your view, having this thriving 13 ecosystem of applications is an important part of 14 maintaining compatibility across Android? 15 MS. ANDERSON: Objection; form, beyond the 16 scope. 17 THE WITNESS: I would say one of -- one of 18 the purposes of compatibility is to ensure that 19 there can be a thriving ecosystem of applications 20 that -- that crosses OEM boundaries. 21 BY MS. HURST: 22 Q And when you say that's a virtuous cycle, 23 when you have the applications, you can attract the 24 manufacturers, and when the manufacturers agree to 25 compatibility, then you can attract the developers,</p> <p style="text-align: right;">Page 165</p>

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<p>1 and it all feeds on each other in a way that is 2 mutually reinforcing? 3 MS. ANDERSON: Objection; form, beyond the 4 scope. 5 THE WITNESS: I don't know if it's 6 mutually enforcing, but it's certainly from an -- 7 you know, if you look at it from every constituent's 8 desires, I think as a manufacturer you want to build 9 devices that can be highly differentiated so that 10 your device doesn't look exactly like another 11 manufacturer's device. 12 So you want to be able to create a highly 13 differentiated device but at the same time, being 14 able to run the full set of applications that the 15 ecosystem is able to provide. That's a 16 manufacturer's -- that's one of the manufacturer's 17 incentives. 18 From an end user, you want to have choice; 19 you know, you want to be able to choose different 20 kinds of devices from different manufacturers at 21 different price points, different colors, different 22 designs, different capabilities but not have to, 23 when they make that choice, decide whether they want 24 applications or not. They always want applications, 25 but they also want to have device diversity. It's</p> <p style="text-align: right;">Page 166</p>	<p>1 BY MS. HURST: 2 Q Did Google copy the Java compatibility 3 testing kit in any way in creating its CTS? 4 MS. ANDERSON: Objection; form, beyond the 5 scope. 6 THE WITNESS: I don't know. I didn't even 7 know what you're describing, so it's hard for me to 8 know whether it was copied or not. 9 BY MS. HURST: 10 Q And is the CTS designed in any way to 11 certify compatibility with the Java platform? 12 MS. ANDERSON: Objection; beyond the 13 scope, form. 14 THE WITNESS: The CTS was designed to 15 ensure that manufacturers are able to -- when used 16 in conjunction with the CDD, to build devices that 17 can participate fully with the Android app 18 ecosystem. 19 BY MS. HURST: 20 Q Was Google CTS designed in any way to 21 certify compatibility with any Java platform? 22 MS. ANDERSON: Objection; form, beyond the 23 scope. 24 THE WITNESS: Not to my knowledge. The 25 goal of the CTS was to ensure compatibility with the</p> <p style="text-align: right;">Page 168</p>
<p>1 really how these incentives are aligning, and, 2 sorry -- 3 And for the application developer, the 4 incentive is they want the biggest bang for their 5 buck. So if they write an application for a 6 particular platform, they want the biggest reach, 7 right? They want to be able to maximize their 8 investment in that platform. So the more devices 9 there are that are compatible with that platform, 10 the better for application developers. 11 BY MS. HURST: 12 Q Now, you at Google wrote your own CTS, 13 right? 14 MS. ANDERSON: Objection; form. 15 THE WITNESS: Correct. We -- we provide 16 the CTS, but the CTS itself is also open source. So 17 we accept contributions, modifications, ideas and so 18 on from the outside as well. 19 BY MS. HURST: 20 Q Are you aware that there's a Java 21 compatibility testing kit? 22 MS. ANDERSON: Objection; form, beyond the 23 scope. 24 THE WITNESS: I'm not sure. 25</p> <p style="text-align: right;">Page 167</p>	<p>1 Android app ecosystem. 2 BY MS. HURST: 3 Q And, in fact, if a manufacturer passes the 4 CTS, that in no way would ensure compatibility with 5 the Java platform, true? 6 MS. ANDERSON: Objection; beyond the 7 scope. 8 THE WITNESS: Sorry, say that again. If a 9 manufacturer -- 10 BY MS. HURST: 11 Q Passes Google's CTS for Android, its 12 Compatibility Test Suite, that would in no way 13 ensure compatibility with the Java platform, true? 14 MS. ANDERSON: Objection; form, beyond the 15 scope. 16 THE WITNESS: The CTS that I'm referring 17 to was developed to ensure compatibility with the 18 Android platform and no other platform. 19 BY MS. HURST: 20 Q You said there were -- I don't want to 21 misstate it -- dozens of anti-fragmentation 22 agreements with manufacturers? 23 MS. ANDERSON: Beyond the scope. 24 THE WITNESS: I believe so. I mean, 25 basically comes down to how many partners are</p> <p style="text-align: right;">Page 169</p>

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<p>1 building compatible devices. And I believe -- I'm 2 guessing now, but it's on the order of -- or 3 approximating, it's on the order of dozens. 4 BY MS. HURST: 5 Q And all of those manufacturers, you 6 entered into anti-fragmentation agreements with them 7 as part of your plan or strategy to ensure the 8 healthiest possible Android ecosystem, true? 9 MS. ANDERSON: Objection; form. 10 THE WITNESS: The reason why we entered -- 11 I'm just clarifying your question. The reason 12 why -- you're saying the reason why we entered into 13 these agreements with the manufacturers is to ensure 14 a healthy Android ecosystem? 15 BY MS. HURST: 16 Q Yes. 17 A Well, in the way that I described a few 18 minutes ago, the -- the purpose of compatibility 19 from an Android platform perspective is to make 20 sure that manufacturers are able to get what they 21 want, which is to be able to build highly 22 differentiable -- differentiable [sic] products, 23 but at the same time maintaining consistency and 24 compatibility with other manufacturers' devices 25 such that applications that are built for one will</p> <p style="text-align: right;">Page 170</p>	<p>1 Now, if you look at -- since you asked 2 about Android One earlier, if you look at an 3 Android One device, you know, it doesn't have curved 4 glass, the cameras are good but not as good as the 5 Samsung ones. It doesn't come with the TouchWiz 6 user interface. Comes with slightly different user 7 interface and completely different price point. 8 These two devices are both running Android, and 9 they've both been built in consultation with the CDD 10 and passing CTS. 11 So one -- I would say one of the main ways 12 in which we ensured differentiation while 13 maintaining compatibility was a combination of open 14 sourcing the operating system so that manufacturers 15 could look at the source code and, in fact, modify 16 the source code while still feeling confident that 17 they're still compatible by making sure they run CTS 18 to validate their work. 19 BY MS. HURST: 20 Q Do they share those source code 21 modifications with you? 22 A Sometimes but not always. 23 Q Is it one of your strategies or plans to 24 require them to share those source code 25 modifications with you?</p> <p style="text-align: right;">Page 172</p>
<p>1 work on the other. 2 Q Well, you've -- you've emphasized several 3 times the highly differentiating devices. If 4 they're all using the same software platform, then 5 how can they differentiate? 6 MS. ANDERSON: Objection; form, beyond the 7 scope. 8 THE WITNESS: It's a good question and 9 something we spend a lot of time thinking about. I 10 think our theory was -- and it's sort of proved out 11 to be true, but in the early days, our theory was 12 that no manufacturer would want to build devices 13 that can't be differentiated from their competitors. 14 Every manufacturer wants to be different and have a 15 unique capability or unique price point or unique 16 whatever it is that they're going after. 17 So, for instance, if you look at the 18 latest Android phones -- let's use Samsung as an 19 example -- the Galaxy S6 Edge, beautiful device that 20 has curved glass on the front and back, or, I think, 21 maybe just the front, actually, an amazing camera 22 and, you know, has a certain user interface, which 23 Samsung calls TouchWiz. It's all running Android, 24 though, but that's like the -- the latest Samsung 25 flagship device.</p> <p style="text-align: right;">Page 171</p>	<p>1 A No. Actually one of the reasons why we 2 chose Apache 2.0 was that they didn't have to. 3 They were under no obligation for those -- that 4 portion of the code that's under Apache 2.0, that 5 they don't have to share it with us. This is one 6 of their differentiations. It's their secret 7 sauce, if you will. So we wanted to ensure that 8 they felt confident that they could do that. 9 Q So it was your strategy, in part, to use 10 Apache 2.0 so that they -- the manufacturers could 11 keep secret sauce, right? 12 MS. ANDERSON: Objection; form, beyond the 13 scope. 14 THE WITNESS: For the portions of Android 15 that make sense for them to modify and create 16 differentiated products, we felt like Apache 2.0 was 17 an appropriate license, but there are certainly 18 other parts of the Android code base, for instance, 19 the Linux kernel, which is under GPL, and, of 20 course, you know, manufacturers have to abide by the 21 appropriate licenses for each part of the code. 22 BY MS. HURST: 23 Q Now, have you explained to the 24 manufacturers your plan to put all of Android under 25 GPL?</p> <p style="text-align: right;">Page 173</p>

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<p>1 MS. ANDERSON: Objection; form, beyond the 2 scope. 3 THE WITNESS: I didn't know we had such a 4 plan. 5 BY MS. HURST: 6 Q Is it true that Google has a plan to put 7 Android N under some form of the GPL license? 8 MS. ANDERSON: Objection; form. 9 THE WITNESS: Is our plan to put Android N 10 under GPL? N, in its totality, like all of N? 11 BY MS. HURST: 12 Q Yes. 13 A Not to my knowledge, no. 14 Q Is it your plan at Google to put any part 15 of N that is not currently under the GPL, such as 16 the Linux kernel -- 17 MS. ANDERSON: Objection; form. 18 MS. HURST: I'm not finished yet, please, 19 Ms. Anderson. I'll start over. 20 MS. ANDERSON: Ms. Hurst, you paused. I 21 inserted an objection. I have been very respectful 22 of your questions today. You don't need to be 23 impolite to me. 24 MS. HURST: I'm not being impolite to you. 25 I'm asking you not to interrupt me.</p> <p style="text-align: right;">Page 174</p>	<p>1 would you think it's a good idea? 2 BY MS. HURST: 3 Q Well, especially in connection with 4 Android One where you're trying to get, you know, 5 widespread adoption on a lower cost basis, wouldn't 6 GPL allow you to harness the efforts of the 7 developer community on a worldwide basis in a way 8 that is more beneficial than the Apache 2.0 license? 9 MS. ANDERSON: Objection; form, beyond the 10 scope. 11 THE WITNESS: I think the question you 12 just stated, there are a lot of assumptions in there 13 that are incorrect. So I'm worried that we're not 14 actually talking about the same thing. 15 I'm not sure how Android One has anything 16 to do with GPL, first of all. 17 The second point I would make is I'm not 18 sure how GPL or Apache impacts application 19 developers, so there's sort of leaps of logic there, 20 at least from my perspective, that I'm sort of 21 failing to understand your question. 22 BY MS. HURST: 23 Q All right. 24 So it's not -- 25 In your view, the form of license on the</p> <p style="text-align: right;">Page 176</p>
<p>1 MS. ANDERSON: I didn't interrupt you at 2 all. 3 Could you either reread the question, 4 court reporter, or you can restart. 5 (Record read as follows: 6 "Q Is it your plan at Google 7 to put any part" --) 8 MS. HURST: I'm sorry, I'm going to 9 restate the question. Given the interruption, I've 10 lost my train of thought, irrespective of how the 11 witness is feeling. 12 BY MS. HURST: 13 Q Is it your plan at Google to put any part 14 of the N, as in Nancy, release of Android under the 15 GPL that is not already under the GPL? 16 MS. ANDERSON: Objection; form. 17 THE WITNESS: Not that I'm aware of. 18 BY MS. HURST: 19 Q All right. 20 And have you -- 21 I mean, wouldn't it be a good strategy to 22 go ahead and do that at this point? 23 MS. ANDERSON: Objection; form. 24 THE WITNESS: I'm not sure. I haven't 25 really put much thought into GPL recently. Why</p> <p style="text-align: right;">Page 175</p>	<p>1 platform itself is not important to developers? 2 MS. ANDERSON: Objection; form. 3 THE WITNESS: So -- so we're not talking 4 about Android One anymore, just to clarify? 5 BY MS. HURST: 6 Q Well, I'm just trying to understand your 7 answer. I'm not -- I'm talking about whatever 8 you're talking about. 9 A I didn't have an answer. I was trying to 10 clarify your question because I didn't understand 11 your question. 12 Q All right. 13 Well, I'm asking you: Don't you think it 14 would be at this point a good strategy for Google to 15 put Android -- the rest of Android open source under 16 GPL? 17 MS. ANDERSON: Objection; form. 18 BY MS. HURST: 19 Q Wouldn't that signal a commitment to 20 the -- full commitment to the open source community, 21 for example? 22 MS. ANDERSON: Objection; form, beyond the 23 scope. 24 THE WITNESS: I haven't thought about this 25 topic, specifically GPL or Apache, I haven't thought</p> <p style="text-align: right;">Page 177</p>

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<p>1 about it in -- in a while, and actually I didn't</p> <p>2 know that anyone was questioning our commitment to</p> <p>3 the open source community. I think, in fact, if</p> <p>4 anything, we have a very strong sort of community,</p> <p>5 you know, one of the biggest distributions of open</p> <p>6 source code in the form of Android, so I didn't know</p> <p>7 that that was something that needed to be addressed.</p> <p>8 BY MS. HURST:</p> <p>9 Q Well, wouldn't it be beneficial if you put</p> <p>10 it under the GPL in order to more effectively share</p> <p>11 all of the improvements that you've made over time?</p> <p>12 MS. ANDERSON: Objection; form, beyond the</p> <p>13 scope.</p> <p>14 THE WITNESS: The source code is the</p> <p>15 source code, whether it's Apache or GPU. The source</p> <p>16 code that's disclosed is exactly the same. So I</p> <p>17 don't think in terms of the information that's being</p> <p>18 made available for further improvements materially,</p> <p>19 if at all, changes based on what the license of the</p> <p>20 source code is. Again, this is not a topic I've --</p> <p>21 I've thought about or has been a topic at Google</p> <p>22 that I'm aware of. So -- yeah.</p> <p>23 BY MS. HURST:</p> <p>24 Q Well, part of what you've done over the</p> <p>25 years of the Android open source project is improve</p> <p style="text-align: right;">Page 178</p>	<p>1 it's not something I've thought about. Android</p> <p>2 itself, as I've mentioned, is open source with</p> <p>3 different licenses based on different parts of the</p> <p>4 code; for instance, the Linux kernel is GPL, but the</p> <p>5 Android framework, for example, is Apache 2.0. The</p> <p>6 net result is for the community, for the open source</p> <p>7 community, and the manufacturing community or the</p> <p>8 community at large, they benefit from this, and I</p> <p>9 don't know if the community is, in particular, sort</p> <p>10 of -- I can't think of an example where someone has</p> <p>11 asked us to GPL all of Android. Just hasn't come</p> <p>12 up, to my knowledge.</p> <p>13 BY MS. HURST:</p> <p>14 Q To your knowledge, has anybody expressed</p> <p>15 an objection to you to GPL'ing all of Android?</p> <p>16 MS. ANDERSON: Objection; form, beyond the</p> <p>17 scope.</p> <p>18 THE WITNESS: I don't know.</p> <p>19 BY MS. HURST:</p> <p>20 Q Do you think it would impair the ability</p> <p>21 of your manufacturers to keep their secret sauce if</p> <p>22 you put Android under GPL?</p> <p>23 MS. ANDERSON: Same objection.</p> <p>24 THE WITNESS: I don't know. I'm not</p> <p>25 knowledgeable enough about the details of these</p> <p style="text-align: right;">Page 180</p>
<p>1 on the Java APIs that are included in Android, true?</p> <p>2 MS. ANDERSON: One second, please.</p> <p>3 Objection; form, beyond the scope.</p> <p>4 THE WITNESS: I don't know.</p> <p>5 BY MS. HURST:</p> <p>6 Q Wouldn't it be beneficial to the Java</p> <p>7 community if you gave back your improvements to the</p> <p>8 Java packages and Android by putting it under GPL?</p> <p>9 MS. ANDERSON: Objection; form, beyond the</p> <p>10 scope.</p> <p>11 THE WITNESS: I'm confused because I feel</p> <p>12 like, on the one hand, you're talking about the Java</p> <p>13 packages or the Java APIs, and on the other hand,</p> <p>14 you're talking about GPL, and I'm trying to</p> <p>15 understand how these two thing relate to each other</p> <p>16 in the context that you're talking about; the</p> <p>17 context being helping the community.</p> <p>18 BY MS. HURST:</p> <p>19 Q So in your view, the GPL would not be --</p> <p>20 putting Android open source under the GPL would not</p> <p>21 be of particular help to the Java community?</p> <p>22 MS. ANDERSON: Objection; form, beyond the</p> <p>23 scope.</p> <p>24 THE WITNESS: I actually don't know what I</p> <p>25 think about this. I think, as I mentioned earlier,</p> <p style="text-align: right;">Page 179</p>	<p>1 licenses to -- to have an informed opinion on that.</p> <p>2 BY MS. HURST:</p> <p>3 Q In your experience, though, there can</p> <p>4 certainly be fear from manufacturers around GPL and</p> <p>5 whether that might require them to share code</p> <p>6 improvements that they like to use to differentiate</p> <p>7 their devices?</p> <p>8 MS. ANDERSON: Objection; form, beyond the</p> <p>9 scope.</p> <p>10 THE WITNESS: I don't know if I'm</p> <p>11 answering your question, but I can't think of --</p> <p>12 I've met many manufacturers or partners, in general.</p> <p>13 I can't think of a case where they expressed</p> <p>14 concerns over how Android is being open sourced. So</p> <p>15 I take that as a signal that they're happy with the</p> <p>16 current way of doing it. I have no way of knowing</p> <p>17 if they would be unhappy with a different way of</p> <p>18 doing it because we've never talked to them about --</p> <p>19 at least that I'm aware of, of doing it in a</p> <p>20 different way.</p> <p>21 BY MS. HURST:</p> <p>22 Q Is Google presently planning to put all or</p> <p>23 any part of Android that is not currently under a</p> <p>24 GPL license under a new GPL license of any form?</p> <p>25 A I don't know.</p> <p style="text-align: right;">Page 181</p>

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<p>1 Q What is Project Enso?</p> <p>2 A Name rings a bell. I read about it</p> <p>3 recently. I think it was an e-mail from someone on</p> <p>4 my team, but I don't remember the details.</p> <p>5 Q Do you know anything at all about any</p> <p>6 strategy or plan for Android reflected in Project</p> <p>7 Enso?</p> <p>8 A The e-mail said something about -- it was</p> <p>9 a very brief e-mail. It said something about</p> <p>10 switching to -- I believe it's called OpenJDK, but</p> <p>11 that was about the extent of the e-mail. Said it</p> <p>12 was a confidential e-mail. It was sent to a</p> <p>13 mailing list that I subscribe to called Android</p> <p>14 Release, and it was a heads-up from one of the</p> <p>15 engineering leaders that this change was going to</p> <p>16 happen in the N release.</p> <p>17 Q Do you have any understanding of what that</p> <p>18 change means?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 Also caution the witness to the extent</p> <p>21 your understanding derives solely from counsel, I</p> <p>22 instruct you not to answer on grounds of privilege.</p> <p>23 But otherwise, you may answer.</p> <p>24 THE WITNESS: No.</p> <p>25</p> <p style="text-align: right;">Page 182</p>	<p>1 have made was to not use it at all.</p> <p>2 BY MS. HURST:</p> <p>3 Q And you could have made a choice</p> <p>4 originally to release Android under GPL, right?</p> <p>5 MS. ANDERSON: Objection; form, beyond the</p> <p>6 scope.</p> <p>7 THE WITNESS: Yeah, we could have made a</p> <p>8 lot of choices. We could have chosen not to open</p> <p>9 source Android as well. I mean, everything was a</p> <p>10 decision that was made.</p> <p>11 BY MS. HURST:</p> <p>12 Q And if you were willing to open source</p> <p>13 Android, why not just put it out under the GPL and</p> <p>14 keep it consistent with the Linux kernel?</p> <p>15 MS. ANDERSON: Objection; form, beyond the</p> <p>16 scope.</p> <p>17 THE WITNESS: I don't know.</p> <p>18 BY MS. HURST:</p> <p>19 Q So you said that it would --</p> <p>20 As with any code base, it would have to be</p> <p>21 a careful decision with the appropriate reviews.</p> <p>22 Has there been the appropriate -- an</p> <p>23 appropriate review and a careful decision made to</p> <p>24 put some additional part of Android under a GPL</p> <p>25 license?</p> <p style="text-align: right;">Page 184</p>
<p>1 BY MS. HURST:</p> <p>2 Q Do you have any understanding at all of</p> <p>3 the business implications of a plan for putting</p> <p>4 part -- another part of Android under the GPL</p> <p>5 license?</p> <p>6 MS. ANDERSON: Objection; form.</p> <p>7 THE WITNESS: The business implications of</p> <p>8 putting another part of Android that does GPL.</p> <p>9 Well, I guess as with any code base, it's a decision</p> <p>10 that has to be made carefully, you know, with the</p> <p>11 appropriate reviews to make sure that it makes</p> <p>12 sense, you know.</p> <p>13 So, for instance, with the Linux kernel,</p> <p>14 we've made the determination that that was an</p> <p>15 appropriate thing to do, and on a case-by-case</p> <p>16 basis, we would need to make sure that that is the</p> <p>17 appropriate thing to do to ensure the current way in</p> <p>18 which Android operates isn't materially changed.</p> <p>19 BY MS. HURST:</p> <p>20 Q You didn't really have any choice about</p> <p>21 the Linux kernel, right? I mean, it came to you</p> <p>22 under GPL, and you can't change that, right?</p> <p>23 MS. ANDERSON: Objection; form, beyond the</p> <p>24 scope.</p> <p>25 THE WITNESS: Well, the choice we could</p> <p style="text-align: right;">Page 183</p>	<p>1 MS. ANDERSON: Objection; form.</p> <p>2 THE WITNESS: I don't know.</p> <p>3 BY MS. HURST:</p> <p>4 Q Did you review any interrogatory responses</p> <p>5 in your preparation to testify as a 30(b)(6) witness</p> <p>6 on strategies and plans for Android?</p> <p>7 A What's an interrogatory response?</p> <p>8 Q I think I can take that as a "no."</p> <p>9 A I don't know if you can. I just don't</p> <p>10 know that term.</p> <p>11 Q All right.</p> <p>12 Did you review any documents at all in</p> <p>13 order to prepare yourself to testify here on behalf</p> <p>14 of Google today?</p> <p>15 A As I was preparing --</p> <p>16 THE WITNESS: So is that a privilege? I</p> <p>17 guess I have a question about privilege.</p> <p>18 MS. ANDERSON: You may identify the</p> <p>19 documents that were shown to you during your</p> <p>20 preparation.</p> <p>21 THE WITNESS: Okay. I can think of two</p> <p>22 documents that I looked at. One was a list of</p> <p>23 topics. I believe it's -- I don't know for sure</p> <p>24 because I didn't look at the whole document, but I'm</p> <p>25 assuming it's this one marked as Exhibit 5003. And</p> <p style="text-align: right;">Page 185</p>

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<p>1 then the other document that I looked at was this 2 e-mail from the engineering lead that talks about 3 Enso. 4 BY MS. HURST: 5 Q Okay. 6 And then when you looked at the e-mail, 7 did you do anything to investigate it further? 8 MS. ANDERSON: You may answer. 9 THE WITNESS: Yes. Aside from discussing 10 it briefly at the -- at the prep meaning -- 11 MS. ANDERSON: Just caution the witness, 12 you don't want to disclose communications with 13 counsel, but you may answer other -- you know, 14 outside of communications with counsel, did you take 15 any other steps? 16 THE WITNESS: Oh, I see. Outside of 17 counsel. No, I did not. 18 BY MS. HURST: 19 Q Do you think that it would be okay for 20 your team to decide to put some big chunk of Android 21 under GPL without consulting you first? 22 MS. ANDERSON: Objection; form. It's also 23 beyond the scope. 24 THE WITNESS: Well, it's a pretty big team 25 now with a lot of decisions that are being made all</p> <p style="text-align: right;">Page 186</p>	<p>1 of privilege. But otherwise, you may answer. 2 THE WITNESS: I believe the first time I 3 heard the phrase Enso or the code name Enso was that 4 e-mail. 5 BY MS. HURST: 6 Q And the first time you saw that e-mail was 7 yesterday? 8 A No. The first time I saw the e-mail 9 was -- I think it was last week. I was traveling 10 in London at the time, and I don't know if this 11 happens to you, but when I travel, I'm usually very 12 behind on e-mail. I was in London, so I was jet 13 lagged, so I just took a quick look but didn't 14 really read it in detail and figured I'll get to it 15 later. 16 And then -- and then I saw it at the 17 prep meeting. 18 Q So last week, the first week of December? 19 A I think it was, yes. I'm not 100 percent 20 sure, but I saw it once very briefly before the 21 prep session, and then I saw it once at the prep 22 session, and that's it. 23 Q When you saw it the first time, what did 24 you do? 25 A Well, I was traveling in London. If I</p> <p style="text-align: right;">Page 188</p>
<p>1 the time. So I make an effort to not be involved in 2 all decisions and be a bottleneck. So it's a good 3 question. You know, I don't -- I don't know. I 4 haven't encountered that, so I don't know. 5 BY MS. HURST: 6 Q Did you consult with Mr. Ghuloum in any 7 way after reviewing this e-mail in your prep 8 session? 9 A I assume you're talking about Anwar? 10 Q Did I mispronounce his last name? I don't 11 know him. I wouldn't call him Anwar so... 12 A We usually refer to people with their 13 first name, so I assume you're referring to Anwar 14 Ghuloum who is author of this e-mail about Enso, 15 but I'm referring to -- and if your question is, 16 did I talk to him about this e-mail after this prep 17 meeting or, in fact, even before this prep meeting, 18 the answer is no. 19 Q Have you ever heard of Project Enso before 20 you looked at the e-mail in your prep session 21 yesterday? 22 MS. ANDERSON: Objection; form and, of 23 course, to the extent responding to the question 24 would require you to reveal communications with 25 counsel, I'd instruct you not to answer on grounds</p> <p style="text-align: right;">Page 187</p>	<p>1 remember correctly, I was traveling in London at 2 the time. I was very behind on e-mail, I had a 3 bunch of meetings, I was jet lagged, so I took a 4 mental note to take a look at it later, and I never 5 got around to it until the prep session happened. 6 Q Did you respond in any way to Mr. Ghuloum 7 when you first saw the e-mail about Project Enso? 8 A No, I did not. 9 Q Do you know what OpenJDK is? 10 A I guess this becomes a privileged 11 question. 12 MS. ANDERSON: Okay. So I'm going to 13 object as to form. To the extent your understanding 14 is solely derived from communications with counsel, 15 I instruct you not to answer on grounds of 16 privilege. If you have any independent knowledge 17 aside from that, you may answer. 18 THE WITNESS: Okay. I can't answer on the 19 grounds of privilege. 20 BY MS. HURST: 21 Q So you have no independent understanding 22 of what OpenJDK is, other than what you've learned 23 from counsel, correct? 24 MS. ANDERSON: You may answer "yes" or 25 "no" to that.</p> <p style="text-align: right;">Page 189</p>

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<p>1 THE WITNESS: Correct.</p> <p>2 BY MS. HURST:</p> <p>3 Q Do you have any knowledge of the license</p> <p>4 terms associated with OpenJDK, other than what you</p> <p>5 might have learned from counsel in a meeting</p> <p>6 yesterday?</p> <p>7 MS. ANDERSON: And same objections, same</p> <p>8 instruction.</p> <p>9 THE WITNESS: No.</p> <p>10 BY MS. HURST:</p> <p>11 Q So would it be fair to say,</p> <p>12 Mr. Lockheimer, that you personally have not made</p> <p>13 any evaluation of whether the license terms of</p> <p>14 OpenJDK would be a commercially acceptable means of</p> <p>15 using the Java API, all or any part of it?</p> <p>16 MS. ANDERSON: Objection; form, beyond the</p> <p>17 scope.</p> <p>18 THE WITNESS: You're saying me personally?</p> <p>19 BY MS. HURST:</p> <p>20 Q Yeah.</p> <p>21 A No, I've never reviewed OpenJDK's terms</p> <p>22 or OpenJDK, period.</p> <p>23 Q Okay.</p> <p>24 And has anyone at Google, other than</p> <p>25 lawyers, ever communicated to you as the head -- the</p> <p style="text-align: right;">Page 190</p>	<p>1 phone, tablets, for Android at Work, wearables,</p> <p>2 Chrome OS, Chromecast, Android Auto, Android TV and</p> <p>3 Internet of Things -- sorry, madam reporter, that</p> <p>4 was a little fast -- do you have any other plans,</p> <p>5 product roadmaps, strategies, functions, markets,</p> <p>6 devices, goods or services planned to be associated</p> <p>7 with Android?</p> <p>8 MS. ANDERSON: Objection; form.</p> <p>9 THE WITNESS: Not that I can think of, no.</p> <p>10 That's a pretty exhaustive list. You mentioned TV,</p> <p>11 Wear, Auto, obviously Android on phones and tablets</p> <p>12 and the Internet of Things, that's all Android</p> <p>13 related.</p> <p>14 Chrome OS is not Android related,</p> <p>15 Chromecast is not Android related, and I think</p> <p>16 that's it. Those are my areas of responsibility.</p> <p>17 BY MS. HURST:</p> <p>18 Q What is ARC Welder?</p> <p>19 A ARC Welder, to the best of my</p> <p>20 knowledge -- my knowledge is not deep on this</p> <p>21 topic, but ARC Welder is, I believe, a tool that</p> <p>22 developers use -- yeah, it's a tool for developers.</p> <p>23 Q To do what?</p> <p>24 A My understanding is ARC Welder -- and</p> <p>25 it's A-R-C, then, Welder. Developers use</p> <p style="text-align: right;">Page 192</p>
<p>1 Senior Vice President of Android that they have made</p> <p>2 an evaluation of the license terms of OpenJDK and</p> <p>3 concluded that they are a commercially acceptable</p> <p>4 means of using the Java API packages, all or any</p> <p>5 portion of them?</p> <p>6 MS. ANDERSON: Objection; form, beyond the</p> <p>7 scope and, again, same privilege instruction.</p> <p>8 THE WITNESS: Yeah, I don't think I can</p> <p>9 answer that without breaking privilege.</p> <p>10 BY MS. HURST:</p> <p>11 Q Well, my question was other than lawyers.</p> <p>12 So if there's nobody other than lawyers, then the</p> <p>13 answer is "nobody other than lawyers."</p> <p>14 MS. ANDERSON: And this is confusing. If</p> <p>15 you have information, other than lawyers, you may</p> <p>16 provide it; it's not privilege. But if it's</p> <p>17 information solely derived from lawyers, you may</p> <p>18 indicate that in responding, that there's nothing</p> <p>19 other than through lawyers.</p> <p>20 THE WITNESS: Aside from that e-mail on</p> <p>21 Enso that I received as part of being the Android</p> <p>22 release mailing list, I don't know anything on this</p> <p>23 topic, aside from my dealings with the legal team.</p> <p>24 BY MS. HURST:</p> <p>25 Q Other than the use of Android platform in</p> <p style="text-align: right;">Page 191</p>	<p>1 ARC Welder to make it possible to run their Android</p> <p>2 applications on -- within the app runtime for</p> <p>3 Chrome or ARC on Chrome OS.</p> <p>4 Q So ARC stands for the app runtime for</p> <p>5 Chrome?</p> <p>6 A Yeah. App runtime for Chrome OS, I</p> <p>7 guess, is more accurate. I'm sorry, I slipped on</p> <p>8 the first try, but it's app runtime for Chrome OS.</p> <p>9 Q ARC Welder is a way of making Android</p> <p>10 applications run on a device that uses the Chrome</p> <p>11 operating system, true?</p> <p>12 A ARC Welder is a tool for selective</p> <p>13 developers. Not all -- it's not -- to the best of</p> <p>14 my knowledge, it's not available to all developers.</p> <p>15 But for a select set of developers, we provide them</p> <p>16 with ARC Welder so that they can take their</p> <p>17 applications and run it within the ARC system on</p> <p>18 Chrome OS.</p> <p>19 Q So what kind of devices use Chrome OS?</p> <p>20 A There are a number of device categories:</p> <p>21 Laptops, desktop computers, digital signage are</p> <p>22 examples of devices that run Chrome OS.</p> <p>23 Q So ARC Welder is a way of making Android</p> <p>24 applications run on laptops that use Chrome OS,</p> <p>25 true?</p> <p style="text-align: right;">Page 193</p>

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<p>1 A To be very precise, some applications to 2 run on laptops running Chrome OS called 3 Chromebooks, yes.</p> <p>4 Q Are you limiting the type -- 5 In your answer, were you limiting the 6 types of applications, or were you limiting it to 7 the specific types of laptops?</p> <p>8 A Both. So limited -- it's not all Android 9 applications. It's a subset, a vast subset, 10 meaning a very small subset of Android applications 11 are eligible to run in ARC, and I'm just pointing 12 out that laptops running Chrome OS are also known 13 as Chromebooks.</p> <p>14 Q And what categories of apps are eligible 15 to run using ARC?</p> <p>16 A It's not really separated by category, 17 per se. It's more separated by what's possible, 18 meaning not all applications are able to run in 19 ARC.</p> <p>20 Q And what common characteristics define the 21 ones that are capable of running in ARC?</p> <p>22 MS. ANDERSON: Objection; beyond the 23 scope.</p> <p>24 THE WITNESS: I don't know that level of 25 technical detail. It's a technical determination.</p> <p style="text-align: right;">Page 194</p>	<p>1 Android, if you take that and try to run it in ARC, 2 it won't run because ARC was built in such a way 3 that doesn't support all of the things that 4 Microsoft Word on Android needs, and so that's -- 5 that's basically the gist of what works versus what 6 doesn't.</p> <p>7 BY MS. HURST:</p> <p>8 Q Can you give me some applications that 9 will run on ARC?</p> <p>10 MS. ANDERSON: Beyond the scope.</p> <p>11 THE WITNESS: I remember when we announced 12 ARC -- this was a year, a year and a half ago -- 13 they did a demo, I think, of Evernote, which is a 14 note-taking app running on ARC, so, I guess, that's 15 one app.</p> <p>16 I think the other example I can think of 17 is Vine; that's another app that runs on ARC. Last 18 I heard, there were about 100 or so applications 19 that run on ARC.</p> <p>20 Just to put that in perspective, there are 21 about a million -- over a million applications in 22 Google Play, so you can tell it's a tiny, little 23 subset.</p> <p>24 BY MS. HURST:</p> <p>25 Q So does it require some kind of close</p> <p style="text-align: right;">Page 196</p>
<p>1 It's not a policy thing. There are certain 2 technology choices made by the ARC team as well as, 3 I guess, what the application developer has done 4 that makes certain applications work well, whereas 5 certain applications not work well in ARC. So it's 6 manually tested and curated first.</p> <p>7 BY MS. HURST:</p> <p>8 Q I'm just trying to get some understanding 9 of this.</p> <p>10 Can you describe for me in any way how the 11 function of, you know, these Android applications 12 relates to their ability or inability to run in 13 connection with ARC?</p> <p>14 MS. ANDERSON: Objection; beyond the 15 scope.</p> <p>16 THE WITNESS: Well, I guess another way of 17 saying it is ARC is not a -- it's -- how do I put 18 this? I'm trying to explain it, explain it well.</p> <p>19 ARC is -- it's not like Android is running 20 inside of Chrome OS. ARC is a runtime that enables 21 some Android apps to run on Chrome OS, but it's not 22 like Android itself is running on Chrome OS, so that 23 means that --</p> <p>24 I'll give you a very concrete example. I 25 believe Microsoft Word, which is available on</p> <p style="text-align: right;">Page 195</p>	<p>1 cooperation between your team and the app developer 2 in order to get things running -- Android 3 applications running on ARC?</p> <p>4 A That's my understanding, yes. And that's 5 how an application -- application developer would 6 get ahold of ARC Welder in the first place. This 7 would be sort of a one-to-one relationship, 8 engineer-to-engineer or 9 product-person-to-product-person relationship 10 between the ARC team and the developer to ensure 11 that the app is running well.</p> <p>12 Q Well, is it your plan to make -- 13 ultimately to make ARC Welder broadly available so 14 that Android applications are available on laptop 15 and desktop computers running Chrome OS?</p> <p>16 MS. ANDERSON: Objection; form.</p> <p>17 THE WITNESS: I don't know. You know, 18 we've gone back and forth on how -- how broad -- 19 broadly available we want to make the ARC 20 technology. You can think of it as an experiment of 21 sorts, and so I don't know what the latest thinking 22 is from the team on that. It's been probably three 23 to six months since I've gotten an update from them 24 on ARC Welder.</p> <p>25</p> <p style="text-align: right;">Page 197</p>

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<p>1 BY MS. HURST: 2 Q Does the ARC Welder result in either the 3 Dalvik Virtual Machine or the Android runtime 4 running within Chrome? 5 MS. ANDERSON: Objection; beyond the 6 scope. 7 THE WITNESS: I don't know. 8 BY MS. HURST: 9 Q Are Chromebooks special purpose computers? 10 MS. ANDERSON: Beyond the scope. 11 THE WITNESS: Can you define "special 12 purpose computer"? 13 BY MS. HURST: 14 Q Have you ever heard that term? 15 A Yes, but it's used in so many different 16 ways that I don't know what it means. What did you 17 mean when you asked the question? 18 Q Is it the same or different with respect 19 to its purpose than an ordinary desktop computer? 20 MS. ANDERSON: Objection; form. 21 THE WITNESS: I don't know if there's one 22 singular purpose for a, quote, ordinary desktop 23 computer, so it's hard for me to answer that. For 24 instance, you know, my mother-in-law uses her 25 desktop computer to manage her Mary Kay products.</p> <p style="text-align: right;">Page 198</p>	<p>1 (Deposition Exhibit 5015 marked 2 for identification.) 3 BY MS. HURST: 4 Q Do you recognize Exhibit 5015, 5 Mr. Lockheimer? 6 A Not exactly, but it does look like -- it 7 does look like a bunch of OKRs, but I haven't seen 8 this exact document, I don't think. 9 Q Okay. 10 Well, I'll represent to you that it was 11 produced by your counsel as having come from your 12 possession as the custodian of the document; that 13 is, the person who maintained it until it was 14 provided to us. 15 So can you take a minute and see, please, 16 whether it's something that you're familiar with? 17 A Sure. I'll take a look. Give me a 18 second, but it's possible someone e-mailed it to me 19 and that's why it was, quote, in my possession. 20 Doesn't necessarily mean that I know everything 21 about it, but I'll take a look. 22 I looked at all the pages. 23 Q Can you tell me anything more about what 24 is Exhibit 5015? 25 A Well, looking at this, it looks like what</p> <p style="text-align: right;">Page 200</p>
<p>1 You know, I use my desktop computer to do e-mails. 2 Is that the same purpose? Probably not. So I don't 3 even know if there's a single purpose for computers, 4 so I don't know how to differentiate from that. 5 BY MS. HURST: 6 Q What is the purpose of a Chromebook? 7 MS. ANDERSON: Objection; beyond the 8 scope. 9 THE WITNESS: It really depends on the 10 purchaser of it. I can think of many different 11 uses. You know, Chromebooks can be used for -- for 12 many different purposes. 13 BY MS. HURST: 14 Q Is a Chromebook a general-purpose 15 computer? 16 MS. ANDERSON: Objection; beyond the 17 scope. 18 THE WITNESS: I forget the other term you 19 used earlier, "specialized," I think; just like I 20 couldn't define that term, I can't define what 21 "generalized computer" means; flip sides, you know, 22 of the same coin. I don't know what you mean by 23 that. 24 MS. HURST: Exhibit 5015 is GOOG00191479, 25 spreadsheet of six pages.</p> <p style="text-align: right;">Page 199</p>	<p>1 we would call OKR results, and by the dates written 2 here, it looks like it comes from -- it's pretty 3 recent. It's a Q3 of this year, third quarter of 4 this year, document where it says "Q3 '15 MOQ." I 5 think the M stands for middle of quarter and "Q3 6 '15 EOQ," I assume refers to end of quarter. And 7 this document is describing various OKRs throughout 8 the company, at least the ones that were tracked in 9 this document, and gives sort a score: Red, yellow 10 or green, on a per-OKR basis. 11 Q What purpose do you use OKRs, if any? 12 A The company uses OKRs to generally align 13 teams around key objectives or objectives that are 14 deemed important, not -- by the way, not mutually 15 exclusive to everything else. So just because 16 something is not an OKR doesn't mean it doesn't 17 happen. But OKRs are sort of distillations of 18 important topics that are important to the company 19 or on a per-product area basis. And we rate them 20 every quarter or sometimes multiple times a quarter 21 just to see how we're tracking against our goals or 22 our objectives. 23 Q Which of the OKRs listed in Exhibit 5015 24 are you responsible, in whole or in part, for 25 assisting the company to achieve?</p> <p style="text-align: right;">Page 201</p>

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<p>1 A Let's see.</p> <p>2 Q And by "you," I mean anybody working for</p> <p>3 you.</p> <p>4 A Okay. Well, I'll just go down the list</p> <p>5 one by one. The first one that I see where my team</p> <p>6 had some role in is the one, two, three, fourth one</p> <p>7 down where it says:</p> <p>8 "Build new assistant layer in</p> <p>9 M (Now on Tap) with seamless Web to</p> <p>10 app linking and a new runtime</p> <p>11 permissions model. Architecture</p> <p>12 for ephemeral apps defined."</p> <p>13 In brackets right after that it says:</p> <p>14 "[Scott H; Mike C" -- and a parn- that's a typo.</p> <p>15 What they mean is a partner, A-P-A-R-N-A-C, and so</p> <p>16 the Mike C. there is referring to Mike Claron who</p> <p>17 works on my team.</p> <p>18 Q So is M, M means Android-level</p> <p>19 Marshmallow; is that right?</p> <p>20 A It's correct; it's the latest version of</p> <p>21 Android called Marshmallow.</p> <p>22 Q And that's already been released, right?</p> <p>23 A Right. It was -- customers started</p> <p>24 receiving it end of September, early October.</p> <p>25 Q So you're working on N now, right?</p> <p style="text-align: right;">Page 202</p>	<p>1 A Thank you.</p> <p>2 So where was I? So it's still early</p> <p>3 days for us on N, so we haven't shared everything</p> <p>4 yet either, and also they're busy working on M</p> <p>5 themselves. But we've started to have very</p> <p>6 high-level discussions with our partners about N.</p> <p>7 Q Okay.</p> <p>8 Just continuing there in 1, which is</p> <p>9 labeled the "Future of Search on Mobile."</p> <p>10 Do you see that there, that heading next</p> <p>11 to Item 1?</p> <p>12 A Oh, sure, sure, the very first line,</p> <p>13 sure, the header.</p> <p>14 Q Right.</p> <p>15 So is that like the overarching objective?</p> <p>16 I mean, there's, you know, a series of numbered</p> <p>17 items here through 14.</p> <p>18 A Yeah. It's interesting -- it's</p> <p>19 interesting because I feel like I was wondering the</p> <p>20 same thing when -- when I was reviewing OKRs.</p> <p>21 By the way, typically the reason why I</p> <p>22 didn't recognize this document right away is</p> <p>23 because when they print it out, they print it out</p> <p>24 in the other orientation with very long paper with</p> <p>25 numbers next to it so we can refer to specific</p> <p style="text-align: right;">Page 204</p>
<p>1 A Correct, we're working on N.</p> <p>2 Q And what is your target release date for</p> <p>3 N?</p> <p>4 A Currently targeting sometime next summer.</p> <p>5 Q Are you already working with partners</p> <p>6 around the features or other attributes of version N</p> <p>7 of Android?</p> <p>8 A We've started to very early -- we've</p> <p>9 started to have very early discussions with</p> <p>10 partners about N. By the way, our operating system</p> <p>11 versions are alphabetical. So N comes after M, so</p> <p>12 given we just launched M, our partners are pretty</p> <p>13 busy updating their devices to M at the moment.</p> <p>14 While they're doing that, we're busy</p> <p>15 working on the next thing, which is N, so we</p> <p>16 haven't fully engaged with our partners on all the</p> <p>17 details of N partially also because we're still</p> <p>18 working on it and we're still figuring it out.</p> <p>19 But -- excuse me.</p> <p>20 Q Sure. If we need to take a break, just</p> <p>21 say so.</p> <p>22 A No. Sorry.</p> <p>23 Q I hate it when I swallow the wrong way and</p> <p>24 then cough, cough, cough for 20 minutes. So don't</p> <p>25 hesitate.</p> <p style="text-align: right;">Page 203</p>	<p>1 items by the row number. This is a spreadsheet</p> <p>2 basically. And --</p> <p>3 Q So it's missing -- is it missing</p> <p>4 something, then?</p> <p>5 A Maybe or it may just be the way they</p> <p>6 printed it was different. You know, the printer</p> <p>7 added some lines or something. Who knows. But I</p> <p>8 don't question the veracity of this document. I'm</p> <p>9 just saying the formatting was different from what</p> <p>10 I saw.</p> <p>11 Q Than what you usually see?</p> <p>12 A Yeah, exactly.</p> <p>13 Q Okay. Got it.</p> <p>14 A And I always felt when I was looking at</p> <p>15 this -- when I -- for instance, when I looked at</p> <p>16 this -- I don't know -- two months ago or something</p> <p>17 like that, I always felt the organization was a</p> <p>18 little weird because it's not -- or the groupings</p> <p>19 was a little weird. It's not -- it doesn't go by</p> <p>20 org chart. So, for instance, the first heading</p> <p>21 where you -- the point -- the one that you pointed</p> <p>22 out, "Future of Search on Mobile," has a bunch of</p> <p>23 people in it from a certain organization, but, you</p> <p>24 know, Mike Claron from my organization is also</p> <p>25 represented there, so it's not a strict org chart</p> <p style="text-align: right;">Page 205</p>

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<p>1 grouping. It's also not exactly sort of a</p> <p>2 technology grouping either, because in here, they</p> <p>3 talk about, I guess, on 1d., the one that I pointed</p> <p>4 out, "Build new assistant layer in M," that's an</p> <p>5 Android thing, that's not really Search, but it's</p> <p>6 under the Search heading.</p> <p>7 So the way they've grouped this is a</p> <p>8 little bit more thematic rather than</p> <p>9 organizational or technical --</p> <p>10 (Reporter clarification.)</p> <p>11 THE WITNESS: Thematic, rather than, you</p> <p>12 know, organizationally or technically correct.</p> <p>13 BY MS. HURST:</p> <p>14 Q All right.</p> <p>15 And, then, so looking at, for example,</p> <p>16 Item 1f., "Project Soy items on track," how does</p> <p>17 that fit with the theme of "Future of Search on</p> <p>18 Mobile"?</p> <p>19 A That one is consistent with "Search on</p> <p>20 Mobile."</p> <p>21 Q What's it about?</p> <p>22 MS. ANDERSON: Beyond the scope.</p> <p>23 THE WITNESS: How does confidentiality</p> <p>24 work, by the way?</p> <p>25 MS. ANDERSON: So this transcript is</p> <p style="text-align: right;">Page 206</p>	<p>1 BY MS. HURST:</p> <p>2 Q So this Project Soy has something to do</p> <p>3 with iOS?</p> <p>4 MS. ANDERSON: Beyond the scope.</p> <p>5 THE WITNESS: Yes.</p> <p>6 BY MS. HURST:</p> <p>7 Q Does it have something to do with other</p> <p>8 non-Android phones like, you know, feature phones,</p> <p>9 or is it just related to iOS?</p> <p>10 MS. ANDERSON: Beyond the scope.</p> <p>11 THE WITNESS: It's related to iOS. It's</p> <p>12 about making Google Search on iOS work really well.</p> <p>13 BY MS. HURST:</p> <p>14 Q Is there something wrong with how it works</p> <p>15 now?</p> <p>16 MS. ANDERSON: Beyond the scope.</p> <p>17 THE WITNESS: I don't know. You're an iOS</p> <p>18 user; what do you think? Are there things we could</p> <p>19 do better? There's always room for improvement.</p> <p>20 That's -- that's how we always look at things is</p> <p>21 making -- continually making our products better and</p> <p>22 better. I think you'll notice a theme here. We're</p> <p>23 always looking at ways to delight customers more</p> <p>24 than ever.</p> <p>25</p> <p style="text-align: right;">Page 208</p>
<p>1 designated attorneys' eyes only, highest level of</p> <p>2 confidentiality, and then we'll have a period under</p> <p>3 the protective order if there's some parts that can</p> <p>4 be down-designated, and some parts can't be, we</p> <p>5 won't. And so, you know, the company has the</p> <p>6 opportunity to designate things to keep it</p> <p>7 attorneys' eyes only level.</p> <p>8 THE WITNESS: Uh-huh. Okay. Well, let's</p> <p>9 try.</p> <p>10 This Amit, the person's name in brackets,</p> <p>11 Amit, A-M-I-T, he's the head of Search. He's my</p> <p>12 peer in the Search organization and Project Soy</p> <p>13 is -- is one of his projects, doesn't have anything</p> <p>14 to do with Android.</p> <p>15 BY MS. HURST:</p> <p>16 Q What's it about?</p> <p>17 MS. ANDERSON: Beyond the scope.</p> <p>18 THE WITNESS: It's about Search on Mobile</p> <p>19 outside of Android.</p> <p>20 BY MS. HURST:</p> <p>21 Q What does that mean?</p> <p>22 MS. ANDERSON: Beyond the scope.</p> <p>23 THE WITNESS: There are many other devices</p> <p>24 that connect to the mobile networks that aren't</p> <p>25 running Android. I think you have one of them.</p> <p style="text-align: right;">Page 207</p>	<p>1 BY MS. HURST:</p> <p>2 Q It would delight me if you weren't using</p> <p>3 my kid's data without my consent.</p> <p>4 MS. ANDERSON: No question pending.</p> <p>5 MS. HURST: Well, if you hadn't asked, I</p> <p>6 wouldn't have volunteered.</p> <p>7 I could use a restroom break.</p> <p>8 MS. ANDERSON: Okay. If we can keep them</p> <p>9 really short, maybe five minutes, just because we're</p> <p>10 trying to make sure the witness can get his</p> <p>11 children, and we want to give you as much time as</p> <p>12 you have.</p> <p>13 MS. HURST: You know, we were here ready</p> <p>14 to go on time. I don't want to get in a big fight</p> <p>15 with you about this now, but, you know, having to</p> <p>16 take a restroom break, I don't think is something</p> <p>17 that, you know, is out of bounds.</p> <p>18 MS. ANDERSON: Well, I didn't complain</p> <p>19 about you taking a restroom break. I just asked if</p> <p>20 we could keep it to five minutes as I'm trying to</p> <p>21 help you have more time with the witness. That's</p> <p>22 what I'm trying to do.</p> <p>23 THE VIDEOGRAPHER: We are off the record</p> <p>24 at 3:03 p.m.</p> <p>25 (Recess taken.)</p> <p style="text-align: right;">Page 209</p>

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<p>1 THE VIDEOGRAPHER: We are on the record at 2 3:09 p.m. 3 BY MS. HURST: 4 Q Continuing with Exhibit 5015, 5 Mr. Lockheimer, are any of the objectives in Item 2, 6 "Mobile Monetization," under your organization? 7 A Nope, they are not. 8 Q What is GAIA referenced in 2d.? 9 MS. ANDERSON: Beyond the scope. 10 THE WITNESS: GAIA, G-A-I-A, is an 11 internal name for -- a Google internal name for our 12 identity management system. Another way to say it 13 is what a customer would know as their Google 14 account. GAIA is the system internally that manages 15 Google accounts. 16 BY MS. HURST: 17 Q What is Project Sidewinder? 18 A Where do you see that? 19 Q I'm not asking about the document. 20 A Oh, I see. 21 Q I'm asking you what is Project Sidewinder? 22 A Okay. Project Sidewinder is a project 23 related to bringing Google Play to China. 24 Q And have you had any involvement in 25 Project Sidewinder?</p> <p style="text-align: right;">Page 210</p>	<p>1 BY MS. HURST: 2 Q And what plans or strategies do you have 3 for getting manufacturers to agree to do this, 4 assuming such approvals? 5 MS. ANDERSON: Beyond the scope. 6 THE WITNESS: How do we plan on doing 7 this? 8 BY MS. HURST: 9 Q How do you plan on inducing the 10 manufacturers to agree to put the Google Play Store 11 on their handsets, assuming the appropriate 12 approvals? 13 MS. ANDERSON: Objection; form, beyond the 14 scope. 15 THE WITNESS: Well, there are a number of 16 approaches we've taken. The application store 17 environment, if you will, in China is very different 18 from how it is in the rest of the world. In China, 19 it's not uncommon for consumers to install, 20 themselves, multiple stores and download 21 applications from multiple stores. 22 Contrasting that to a typical experience 23 for the rest of the world where typically a customer 24 goes to one store and downloads, you know, all their 25 applications from that one store.</p> <p style="text-align: right;">Page 212</p>
<p>1 MS. ANDERSON: Beyond the scope of Topic 2 2. 3 THE WITNESS: Sort of on the periphery, 4 but not -- not a main role. I'm not responsible for 5 Google Play, but obviously Google Play runs on 6 Android, so I have a relationship with the Play 7 team, but Sidewinder is run out of the Google Play 8 team. 9 BY MS. HURST: 10 Q Well, what role do the handset 11 manufacturers play in connection with Project 12 Sidewinder? 13 MS. ANDERSON: Beyond the scope. 14 Objection; form. 15 THE WITNESS: Well, the idea is just like, 16 for example, the U.S. today, when you buy an Android 17 phone, it comes with the Google Play Store, and 18 that's something the manufacturer does. Project 19 Sidewinder is partially about working with 20 manufacturers who are selling devices in China to 21 see if they would be willing to put the Play Store 22 on their devices in China. 23 Now, all of this is subject to regulatory 24 and government approvals, which we have not 25 received, so it's not launched at all.</p> <p style="text-align: right;">Page 211</p>	<p>1 So the environment is very different in 2 China, so we're still learning how to work in that 3 environment, which is foreign to us. And so we've 4 taken a number of approaches. Partially -- some of 5 it relates to, for example, working with 6 manufacturers in China who want to have bigger 7 successes outside of China. We've talked about 8 working together so that we'll help them be more 9 successful outside of China, which we have 10 experience with, in general; not talking about 11 stores but about just the marketplace in general. 12 And in exchange, we get their help in 13 learning how to be successful in the Chinese market. 14 That's -- that's one example of how we've approached 15 this. 16 BY MS. HURST: 17 Q Have you proposed or discussed revenue 18 sharing in association with manufacturers in 19 connection with Project Sidewinder? 20 MS. ANDERSON: Beyond the scope. 21 THE WITNESS: I believe we have. 22 BY MS. HURST: 23 Q In fact, you personally discussed revenue 24 sharing with Samsung; isn't that true? 25 MS. ANDERSON: Beyond the scope.</p> <p style="text-align: right;">Page 213</p>

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<p>1 THE WITNESS: I've discussed revenue 2 sharing with Samsung in general, but I can't 3 remember if I've discussed revenue share with 4 Samsung specifically about China. 5 Maybe I misunderstood your question. 6 BY MS. HURST: 7 Q Well, what was the context in which you 8 discussed revenue sharing with Samsung in general? 9 MS. ANDERSON: Beyond the scope. 10 THE WITNESS: Just -- I think we talked 11 about this before. There are some manufacturers 12 that we have revenue share arrangements with. 13 Samsung, I think, was an example I gave. So same as 14 that. No difference from the previous conversation. 15 BY MS. HURST: 16 Q Is it true that you got a verbal 17 commitment from Samsung to participate in Project 18 Sidewinder in connection with revenue sharing? 19 MS. ANDERSON: Beyond the scope. 20 THE WITNESS: I don't know. 21 BY MS. HURST: 22 Q You don't know whether you got a verbal 23 commitment from Samsung to put the Google Play Store 24 on its phones in China? 25 MS. ANDERSON: Beyond the scope.</p> <p style="text-align: right;">Page 214</p>	<p>1 BY MS. HURST: 2 Q I'm talking about you personally, 3 Mr. Lockheimer. Did you discuss with anyone at 4 Samsung putting the Google Play Store on Android 5 phones manufactured for the China market? 6 MS. ANDERSON: Beyond the scope. 7 THE WITNESS: I have had very preliminary 8 and brief discussions with Samsung about our efforts 9 in China, but I don't think I've ever received any 10 commitment of any sort, at least personally. 11 BY MS. HURST: 12 Q So if somebody wrote down in a document, 13 "Hiroshi got a verbal commitment from Samsung in 14 connection with Project Sidewinder," you don't have 15 any idea what that means? 16 MS. ANDERSON: Beyond the scope. 17 THE WITNESS: No. I mean, I can't 18 remember a specific conversation with Samsung where 19 they, quote, committed to doing Sidewinder. 20 BY MS. HURST: 21 Q Does Android -- does the Android platform 22 have built within it any functions that assist in 23 mobile payment processing? 24 MS. ANDERSON: Beyond the scope. 25 THE WITNESS: Your question was, does</p> <p style="text-align: right;">Page 216</p>
<p>1 THE WITNESS: As I was mentioning before, 2 the Sidewinder project is unique. First of all, we 3 don't even have regulatory approval from the Chinese 4 government to launch this product. So it's -- all 5 of these conversations are very early and pending 6 government approval, if that approval were to even 7 come through. We don't know when that is. So 8 conversations we've had with any manufacturer 9 related to Sidewinder is very preliminary. 10 BY MS. HURST: 11 Q Did you get a verbal commitment from 12 Samsung? 13 A On? 14 Q To put the Google Play Store on its phones 15 in China? 16 MS. ANDERSON: Beyond the scope. 17 THE WITNESS: I don't know. 18 BY MS. HURST: 19 Q Well, did you have a discussion with 20 anyone from Samsung about putting the Google Play 21 Store on its phones in China? 22 MS. ANDERSON: Same objections. 23 THE WITNESS: Now, when you say "you," I 24 get sometimes confused. Are you talking about me as 25 an individual now, or are you talking about Google?</p> <p style="text-align: right;">Page 215</p>	<p>1 Android have anything built into it that does mobile 2 payments? 3 BY MS. HURST: 4 Q That assists with mobile payments. 5 A Assists. I guess it depends on how 6 pedantic of an answer you want. I mean, the fact 7 that it's an operating system that allows 8 applications to be run, and for these applications 9 to be able to do whatever they want is a form of 10 assistance. I mean, certainly there are many 11 companies that have made payment applications for 12 Android. 13 Q All right. 14 So if the operating system doesn't run, 15 then there won't be any payment processing? 16 MS. ANDERSON: Beyond the scope. 17 THE WITNESS: Well, if the operating 18 system doesn't allow for applications, there can't 19 be any payment applications or applications of any 20 kind. That's why I'm saying, I don't know at what 21 point would you consider it assisting versus just 22 the fact that it exists? 23 BY MS. HURST: 24 Q So the Google Wallet, for example, is a -- 25 is a payment processing application; is that right?</p> <p style="text-align: right;">Page 217</p>

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<p>1 A I don't know if the Google Wallet team 2 would exactly call it that. I just don't know how 3 they refer to themselves. But, yes, from a 4 layperson's perspective, it does feel like a 5 payment-related or money-related application. 6 Q In order for that to work, does there need 7 to be a Near Field Communications chip in the phone? 8 MS. ANDERSON: Beyond the scope. 9 THE WITNESS: The Near Field chip is a 10 nice-to-have, but my understanding is it's not 11 mandatory. 12 BY MS. HURST: 13 Q Is there anything in Android that assists 14 developers in taking advantage of a Near Field chip? 15 MS. ANDERSON: Beyond the scope. 16 THE WITNESS: Is there anything in Android 17 that helps developers use a Near Field chip? 18 BY MS. HURST: 19 Q Yeah. 20 A Sure, but it doesn't have to be payment 21 related. 22 Q But it can be? 23 MS. ANDERSON: Beyond the scope. 24 THE WITNESS: Sure, it can be. This was 25 my point about at what point is one assisting the</p> <p style="text-align: right;">Page 218</p>	<p>1 a cut of payment processing transaction fees? 2 A I don't know for sure. 3 Q Is there anything else that you're aware 4 of that's a way of money flowing associated with 5 payment processing that Google gets a cut of? 6 MS. ANDERSON: Beyond the scope. 7 THE WITNESS: The App Store has nothing to 8 do with Near Field, but you didn't say anything 9 about Near Field in your question, so the App Store 10 discussion we had previously or the subscription 11 service from HBO NOW, those are examples where money 12 flows, and there is a share of -- of -- you know, of 13 that revenue. 14 Maybe I'm misunderstanding your question. 15 BY MS. HURST: 16 Q Well, is HBO NOW a payment processing? 17 A I thought your question was Google doing 18 payment processing, do we share that revenue. And 19 I'm saying, well, in the case of HBO NOW, we're 20 doing payment processing for the HBO NOW 21 subscription service, and they obviously get their 22 revenue from us. 23 Q I'm talking about payment processing out 24 in the world, not in a Google Play Store, okay? 25 People are out in the world using their</p> <p style="text-align: right;">Page 220</p>
<p>1 other? It exists. It can be used for anything. 2 For instance, could be used for unlocking this door. 3 BY MS. HURST: 4 Q But here in the Bay Area, maybe sometimes 5 we go to Peet's Coffee and we see there's a little 6 thing there at the checkout, and you can tap your 7 phone, your Android phone, on it as a means of 8 payment, right? 9 MS. ANDERSON: Beyond the scope. 10 THE WITNESS: I don't actually know if 11 Peet's supports it. It's merchant by merchant or 12 merchant network by merchant network, so there are 13 compatibility issues there, but in general, the 14 concept is true, yes. I don't know about Peet's 15 specifically. 16 BY MS. HURST: 17 Q Now, does Google monetize the payment 18 processing capabilities of Android in any way, 19 either directly or indirectly? 20 MS. ANDERSON: Objection; form. 21 THE WITNESS: Does Google monetize the 22 payment capability. Do you mean -- what do you mean 23 by that? 24 BY MS. HURST: 25 Q Well, let's start with this: Do you take</p> <p style="text-align: right;">Page 219</p>	<p>1 Android phones in order to make payments. And then 2 there's a processing that goes on associated with 3 that. 4 A Okay. 5 Q Is Google getting a cut of that somewhere? 6 MS. ANDERSON: Objection; form. 7 THE WITNESS: I don't know. 8 BY MS. HURST: 9 Q How's the term "dogfood" used at Google? 10 A Very often. 11 Q What does it mean? 12 A To use a product before it's made 13 commercially or publicly available. For employees 14 to use the product before making it available to 15 the public. 16 Q Would you turn, please, to the third page, 17 Item 9 of Exhibit 5015. 18 A Item 9. Okay. 9a. 19 Q Yeah, 9a., "Single Google mobile developer 20 SDK announced at I/O." 21 Do you see that? 22 A I do see that. 23 Q What is that? 24 A Well, it's not exactly my area. As you 25 can see, Jason's name is next to it, and Jason</p> <p style="text-align: right;">Page 221</p>

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<p>1 doesn't report to me, so I'm not familiar with all 2 the details. But what I know of it is that it's 3 bringing capabilities that Google has, making them 4 available for application developers so that it 5 simplifies their lives, their lives as the 6 developer, so it makes them more efficient in 7 developing applications. 8 Q Well, Android is listed here as one of the 9 elements of the mobile -- unified mobile developer 10 SDK, true? 11 A I do see what it says: 12 "Single unifying Ads, 13 Analytics, Android, Apps/Drive, 14 Cloud, Distribution, Identify, 15 Location [and] Payments." 16 Q It says underneath: "Making good progress 17 on unified mobile platform." 18 Do you see that? 19 A I do see that. 20 Q So what plan or strategy is there for 21 Android to play a role in this unified mobile 22 platform referenced here in Exhibit 5015? 23 A It refers -- 24 Go ahead. 25 MS. ANDERSON: Sorry. Objection; form.</p> <p style="text-align: right;">Page 222</p>	<p>1 Location, Payments. They did put Android in here. 2 You'll see -- that list is, I think, alphabetical. 3 And the reason why Android is in there at all is 4 just to signify that this SDK will work on top of 5 Android. 6 I can see how that if you're looking at 7 this single line here in isolation, that would be 8 confusing, but just knowing the context, that 9 that's what that means. 10 Q Does this generic unified mobile platform 11 SDK include the Android SDK? 12 A First of all, I didn't say "generic 13 mobile SDK." I said Android is a generic operating 14 system. This SDK that they're referring to in 9a. 15 is actually not generic. It's the Google developer 16 SDK, and it is not -- it is not in the Android SDK. 17 It's separate. It's on top of it, and it's -- it's 18 a -- 19 How do I phrase this? Any company is 20 free to build SDKs on top of Android. In fact, 21 companies like Facebook and Twitter have done it 22 where they've built SDKs for app developers of 23 Android. We're doing the same thing here. 24 Q Do you intend to avoid fragmentation in 25 building this Google SDK for Android?</p> <p style="text-align: right;">Page 224</p>
<p>1 Go ahead. 2 THE WITNESS: How do I explain this? It 3 runs on top of Android, so it's not built into 4 Android, per say. It's just -- you can think of it 5 as a tool kit that's made available for Android 6 developers, an optional tool kit that's made 7 available for Android developers that unifies all 8 the Google technologies like ads or analytics, just 9 to use these examples here, in a single sort of tool 10 kit. 11 Now, the important distinction here is 12 that within Google, there's a pretty clear 13 distinction between Android and the rest of Google. 14 I touched upon this earlier, but Android as an 15 operating system doesn't know about any single 16 company. It's just a generic operating system. So 17 when they talk about a mobile developer -- a Google 18 mobile developer SDK, they're talking about an SDK 19 that goes on top of the generic Android operating 20 system that has the Google functionality in it. 21 Q Well, it says "unified mobile platform," 22 right? 23 A Right. The unification they're referring 24 to here is the unification of Ads, Analytics, 25 Apps/Drive, Cloud, Distribution, Identity,</p> <p style="text-align: right;">Page 223</p>	<p>1 MS. ANDERSON: Beyond the scope. 2 THE WITNESS: Orthogonal topics. This is 3 just about developer productivity, so it doesn't 4 have anything to do with fragmentation. 5 BY MS. HURST: 6 Q What is Android Studio? 7 A Android Studio is a integrated 8 development environment or an IDE. It's basically 9 what application developers use to build -- it's a 10 tool that application developers use to do their 11 job. 12 Q Item 10 on that same page, do you see is 13 "Next Billion Users"? 14 A I do see that. 15 Q There's a reference in the second line to 16 a "Chrome Blimp effort to build an ultra thin 17 client." 18 What is that? 19 MS. ANDERSON: Beyond the scope. 20 THE WITNESS: I have no idea. I've never 21 heard of the Chrome Blimp effort. Sounds 22 interesting, though. 23 BY MS. HURST: 24 Q Turning to the next page, Item 10b.: "GMS 25 lite for the next billion on 512-megabyte phones."</p> <p style="text-align: right;">Page 225</p>

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<p>1 What does that refer to?</p> <p>2 A That refers to -- a little bit of</p> <p>3 context. Phones that are typically sold to the,</p> <p>4 quote, next billion, in other words, customers in</p> <p>5 emerging markets who may be more price sensitive</p> <p>6 and are buying lower-cost devices, many of these</p> <p>7 phones only come with 512 megabytes of RAM, which</p> <p>8 by today's standards is pretty minimal. It's not</p> <p>9 that much RAM.</p> <p>10 And there is an issue where the</p> <p>11 performance of Android because of -- not only, but</p> <p>12 in large part, because of the fact that there are</p> <p>13 many apps on these devices that use a lot of RAM,</p> <p>14 the overall performance of these devices are -- is</p> <p>15 suffering. So an end user in these markets with</p> <p>16 these phones with only 512 megabytes of RAM are</p> <p>17 having a pretty terrible user experience.</p> <p>18 And so this effort here is to put our</p> <p>19 apps listed here on a diet, if you will, so that</p> <p>20 they use less RAM so that the overall user</p> <p>21 experience of these devices can be improved.</p> <p>22 Q Do you have any understanding as to what</p> <p>23 platform is typically being used today in emerging</p> <p>24 markets that are more price sensitive with</p> <p>25 lower-cost devices and fewer hardware capabilities?</p> <p style="text-align: right;">Page 226</p>	<p>1 Q Is it true that you have no responsibility</p> <p>2 at all for generating any revenue for the company?</p> <p>3 A Not necessarily, no.</p> <p>4 Q Well, what responsibility do you have for</p> <p>5 generating revenue for the company?</p> <p>6 A Well, to be clear, no -- this is not --</p> <p>7 revenue is not something I spend much of my time</p> <p>8 thinking about. I guess I'm lucky that way. I</p> <p>9 think my colleagues in the ads and monetization</p> <p>10 side certainly don't have it that way.</p> <p>11 But there's one example that I can think</p> <p>12 of which is around our Nexus devices that are sold</p> <p>13 through the Google Store. I'm responsible for the</p> <p>14 Google Store in general. It's a hardware store</p> <p>15 online where we sell various products, including</p> <p>16 Nexus phones and tablets and watches and so on.</p> <p>17 And since I'm responsible for that team, that team</p> <p>18 is, you know, certainly responsible for operating</p> <p>19 that store efficiently and -- and selling as many</p> <p>20 products as -- as they can. So certainly that has</p> <p>21 revenue impact.</p> <p>22 Q Are your Nexus phones profitable?</p> <p>23 MS. ANDERSON: Beyond the scope.</p> <p>24 THE WITNESS: No, they are not.</p> <p>25</p> <p style="text-align: right;">Page 228</p>
<p>1 MS. ANDERSON: Beyond the scope.</p> <p>2 Objection; form.</p> <p>3 THE WITNESS: What platform, meaning what</p> <p>4 operating system, or what do you mean by "what</p> <p>5 platform"?</p> <p>6 BY MS. HURST:</p> <p>7 Q I mean what application development</p> <p>8 platform.</p> <p>9 A Application development platform. I'm</p> <p>10 not sure I know how to parse that question, but</p> <p>11 I'll give it a shot.</p> <p>12 Many devices that are being sold in</p> <p>13 these markets are reported to be Android based, if</p> <p>14 that's -- if that's what you're asking.</p> <p>15 Q Are many devices that are being sold in</p> <p>16 this market also reported to be Java based?</p> <p>17 MS. ANDERSON: Beyond the scope.</p> <p>18 THE WITNESS: Not that I've seen, no.</p> <p>19 BY MS. HURST:</p> <p>20 Q Who do you consider to be your principal</p> <p>21 competitor in these emerging markets?</p> <p>22 MS. ANDERSON: Beyond the scope.</p> <p>23 Objection; form.</p> <p>24 THE WITNESS: iPhone.</p> <p>25 BY MS. HURST:</p> <p style="text-align: right;">Page 227</p>	<p>1 BY MS. HURST:</p> <p>2 Q You're losing money on Nexus phones?</p> <p>3 MS. ANDERSON: Beyond the scope.</p> <p>4 THE WITNESS: We are.</p> <p>5 BY MS. HURST:</p> <p>6 Q Doesn't that concern you?</p> <p>7 MS. ANDERSON: Beyond the scope.</p> <p>8 THE WITNESS: Sure.</p> <p>9 BY MS. HURST:</p> <p>10 Q Have you always lost money on Nexus</p> <p>11 phones?</p> <p>12 MS. ANDERSON: Beyond the scope.</p> <p>13 THE WITNESS: Yes.</p> <p>14 BY MS. HURST:</p> <p>15 Q When was the first Nexus phone released?</p> <p>16 MS. ANDERSON: Beyond the scope.</p> <p>17 THE WITNESS: The first Nexus phone was</p> <p>18 released in -- I believe it was January of 2010.</p> <p>19 BY MS. HURST:</p> <p>20 Q So for five years, you've been losing</p> <p>21 money on Nexus phones?</p> <p>22 MS. ANDERSON: Beyond the scope.</p> <p>23 THE WITNESS: Yes. I also give away my</p> <p>24 software for free.</p> <p>25</p> <p style="text-align: right;">Page 229</p>

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<p>1 BY MS. HURST:</p> <p>2 Q That's because you know you'll make it up</p> <p>3 in other ways, right?</p> <p>4 MS. ANDERSON: Objection; form.</p> <p>5 THE WITNESS: I never said that. I think</p> <p>6 the point is, we want to make sure that we provide</p> <p>7 an operating system and a platform and an ecosystem</p> <p>8 that end users enjoy using and may be part of what</p> <p>9 they do. As part of that usage of this little</p> <p>10 computer that they're always carrying around with</p> <p>11 them, is to connect to the Internet, and hopefully</p> <p>12 they also access Google services.</p> <p>13 BY MS. HURST:</p> <p>14 Q Would you take a look at Exhibit 5003,</p> <p>15 please, which is still in front of you.</p> <p>16 A 5003. Okay. Okay.</p> <p>17 Q Topic 8 says: "All enforcement of</p> <p>18 intellectual property interests of any kind" --</p> <p>19 A Hold on. Hold on. What page is it?</p> <p>20 Q 7.</p> <p>21 A Okay. At the bottom, yes.</p> <p>22 Q Do you see:</p> <p>23 "All enforcement of</p> <p>24 intellectual property interests of</p> <p>25 any kind against Android, whether</p> <p style="text-align: right;">Page 230</p>	<p>1 that without breaking privilege.</p> <p>2 MS. ANDERSON: Okay. Well, on that basis,</p> <p>3 to the extent that requiring you to respond to the</p> <p>4 question would require you to reveal communications</p> <p>5 with counsel, I'd instruct you not to answer on that</p> <p>6 ground. But if you have information that is</p> <p>7 otherwise not privileged, you may respond to the</p> <p>8 question with the understanding that I have objected</p> <p>9 as beyond the scope.</p> <p>10 THE WITNESS: I can't think of any</p> <p>11 non-privileged way in which I would know that, so I</p> <p>12 can't answer on the basis of privilege.</p> <p>13 MS. HURST: This is just a fact. It's</p> <p>14 not -- a fact itself whether Google makes payments</p> <p>15 is not privileged. So -- and we're entitled to</p> <p>16 discover the fact. So if you don't answer it and we</p> <p>17 don't get the answer today, then we're going to have</p> <p>18 to go to court and we're going to have to come back</p> <p>19 here another time and get the answer.</p> <p>20 So it's up to you guys if you want to go</p> <p>21 find some way to let the witness answer the</p> <p>22 question, but it's really clear from the topic that</p> <p>23 the information would be -- that I've just requested</p> <p>24 would be required.</p> <p>25 MS. ANDERSON: Our objection still stands.</p> <p style="text-align: right;">Page 232</p>
<p>1 directed to Google, mobile</p> <p>2 carriers, OEMs or other members of</p> <p>3 the Open Handset Alliance, and any</p> <p>4 payment by you, mobile carriers,</p> <p>5 OEMs, members of the Open Handset</p> <p>6 Alliance or anyone else resulting</p> <p>7 of any assertion of intellectual</p> <p>8 property against Android."</p> <p>9 Do you see that?</p> <p>10 A I do see that.</p> <p>11 Q All right.</p> <p>12 Now, does Google make any payments in</p> <p>13 respect of anybody else's intellectual property</p> <p>14 interests asserted against Android?</p> <p>15 MS. ANDERSON: Objection; form and beyond</p> <p>16 the scope.</p> <p>17 THE WITNESS: Does Google make any</p> <p>18 payments -- if you could repeat that question.</p> <p>19 BY MS. HURST:</p> <p>20 Q Does Google make any payments in respect</p> <p>21 of anybody else's intellectual property interests</p> <p>22 asserted against Android?</p> <p>23 MS. ANDERSON: Objection; form and beyond</p> <p>24 the scope.</p> <p>25 THE WITNESS: I don't know how to answer</p> <p style="text-align: right;">Page 231</p>	<p>1 It's beyond the scope of the topic as we have</p> <p>2 objected to and agreed to it, and so if you can only</p> <p>3 respond by revealing a privileged communication,</p> <p>4 then you should refrain from disclosing privileged</p> <p>5 communications.</p> <p>6 MS. HURST: We did not agree to any</p> <p>7 limitations of this topic, and we certainly did not</p> <p>8 agree to limit a topic that says "all enforcement of</p> <p>9 intellectual property interests of any kind" to a</p> <p>10 specific sort of intellectual property.</p> <p>11 MS. ANDERSON: Okay. Well, regardless</p> <p>12 of --</p> <p>13 MS. HURST: If you think we agreed to it,</p> <p>14 please tell me right now in what written</p> <p>15 communications sent from whom on what day said that.</p> <p>16 MS. ANDERSON: I'll be happy to get that</p> <p>17 to you when we discuss this matter. For now, I'm</p> <p>18 telling you, this witness -- as I told you already,</p> <p>19 this witness has been produced pursuant to</p> <p>20 objections which we served upon you, and we also</p> <p>21 understand we have an arrangement with somebody from</p> <p>22 your office that "intellectual property" refers to</p> <p>23 copyright and doesn't refer to patent or other forms</p> <p>24 of intellectual property. And you may discuss that</p> <p>25 with your office members when you feel free to do</p> <p style="text-align: right;">Page 233</p>

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<p>1 that.</p> <p>2 For now, the witness is here. You may ask</p> <p>3 him questions, but the privilege objection stands.</p> <p>4 MS. HURST: There is no privilege</p> <p>5 objection to a fact. Either the witness knows it in</p> <p>6 a way he can answer it because he's here as a</p> <p>7 30(b)(6) to testify on behalf of the company or</p> <p>8 instruct him not to answer, and then I can go and</p> <p>9 get an order to produce a witness that actually</p> <p>10 knows something about the topic as it was</p> <p>11 propounded.</p> <p>12 MS. ANDERSON: I suggest you move to your</p> <p>13 next question, Counsel.</p> <p>14 MS. HURST: I'm not going to move -- I'm</p> <p>15 not going to move to another question until I either</p> <p>16 get an instruction not to answer or an answer.</p> <p>17 MS. ANDERSON: I already have instructed</p> <p>18 the witness not to answer, Counsel. I've done it</p> <p>19 twice. Would you like me to do it again?</p> <p>20 MS. HURST: You actually did not instruct</p> <p>21 the witness not to answer. But thank you for now</p> <p>22 making it clear that that's what you intended.</p> <p>23 MS. ANDERSON: When I told the witness,</p> <p>24 twice now, that to the extent responding to your</p> <p>25 question would require you to reveal communications</p> <p style="text-align: right;">Page 234</p>	<p>1 any communication that you've had with counsel, just</p> <p>2 "yes" or "no" or "I don't know," I suppose: Does</p> <p>3 Google pay any other company with respect to that</p> <p>4 other company's intellectual property interest</p> <p>5 asserted against Android?</p> <p>6 MS. ANDERSON: Beyond the scope.</p> <p>7 THE WITNESS: There is no way for me to</p> <p>8 answer that without losing privilege.</p> <p>9 BY MS. HURST:</p> <p>10 Q Are you refusing to answer the question?</p> <p>11 MS. ANDERSON: You may answer "yes" or</p> <p>12 "no."</p> <p>13 THE WITNESS: Yes, based on what I've been</p> <p>14 told.</p> <p>15 BY MS. HURST:</p> <p>16 Q So are there agreements at Google</p> <p>17 reflecting some agreement to pay a third party in</p> <p>18 respect to their intellectual property assertion</p> <p>19 against Android?</p> <p>20 MS. ANDERSON: Objection as beyond the</p> <p>21 scope, and to the extent any information you might</p> <p>22 know in response to this question you only know from</p> <p>23 a communication with counsel, I instruct you not to</p> <p>24 answer on grounds of privilege. But otherwise, you</p> <p>25 may answer.</p> <p style="text-align: right;">Page 236</p>
<p>1 with counsel, I instruct you not to answer on that</p> <p>2 basis of privilege. Otherwise, you may answer. The</p> <p>3 witness informed you he doesn't have any other basis</p> <p>4 to respond.</p> <p>5 MS. HURST: That's not an instructions</p> <p>6 unless you then say, "I instruct you not to answer</p> <p>7 the question."</p> <p>8 And will you also stipulate, Ms. Anderson,</p> <p>9 that he won't answer the question once so instructed</p> <p>10 so I don't have to ask it again?</p> <p>11 MS. ANDERSON: No. What I've told the</p> <p>12 witness is if he has information aside from</p> <p>13 information he only knows from a communication with</p> <p>14 counsel, he may provide it to you.</p> <p>15 MS. HURST: So you're refusing to</p> <p>16 stipulate?</p> <p>17 MS. ANDERSON: I don't even understand</p> <p>18 what you just said. In any event, if you would like</p> <p>19 to continue discussing this, I'm happy to do it, but</p> <p>20 I suggest you spend your time asking questions.</p> <p>21 MS. HURST: I've spent much time today</p> <p>22 asking questions. Unfortunately, the answers have</p> <p>23 been thin on the ground.</p> <p>24 BY MS. HURST:</p> <p>25 Q "Yes" or "no," don't reveal the content of</p> <p style="text-align: right;">Page 235</p>	<p>1 THE WITNESS: If you could repeat the</p> <p>2 question again.</p> <p>3 BY MS. HURST:</p> <p>4 Q Are there any written agreements at Google</p> <p>5 reflecting some agreement to pay a third party in</p> <p>6 respect to their intellectual property assertion</p> <p>7 against Android?</p> <p>8 MS. ANDERSON: Same objection. Same</p> <p>9 instruction.</p> <p>10 THE WITNESS: I don't know.</p> <p>11 BY MS. HURST:</p> <p>12 Q Have you ever seen press reports</p> <p>13 indicating that Google or handset makers have had to</p> <p>14 pay third parties in respect to their assertion of</p> <p>15 intellectual property interests regarding Android?</p> <p>16 MS. ANDERSON: Beyond the scope.</p> <p>17 THE WITNESS: Sure, I've read -- I've read</p> <p>18 press reports about handset manufacturers, yes.</p> <p>19 BY MS. HURST:</p> <p>20 Q You've read, for example, that handset</p> <p>21 manufacturers pay Microsoft related to their use of</p> <p>22 Android?</p> <p>23 MS. ANDERSON: Objection; beyond the</p> <p>24 scope, also form.</p> <p>25 THE WITNESS: Actually, that's not the one</p> <p style="text-align: right;">Page 237</p>

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<p>1 I was thinking about.</p> <p>2 BY MS. HURST:</p> <p>3 Q Which one were you thinking about?</p> <p>4 MS. ANDERSON: Objection; beyond the scope</p> <p>5 and as to form.</p> <p>6 THE WITNESS: I was thinking about the</p> <p>7 article I read recently, for example, about Samsung</p> <p>8 paying Apple.</p> <p>9 BY MS. HURST:</p> <p>10 Q And it was your understanding that they</p> <p>11 were paying them because of an assertion of</p> <p>12 intellectual property interest against Android?</p> <p>13 MS. ANDERSON: Objection; beyond the scope</p> <p>14 and as to form.</p> <p>15 THE WITNESS: Well, that's a good</p> <p>16 question. I don't know if the payments were</p> <p>17 specifically about Android, but it was certainly</p> <p>18 about their devices. Now, I don't know how much of</p> <p>19 whatever amount they're paying or allegedly paying</p> <p>20 is because of the software versus their hardware. I</p> <p>21 have no idea.</p> <p>22 BY MS. HURST:</p> <p>23 Q Have you ever heard or read that any of</p> <p>24 your Android handset makers are paying Microsoft</p> <p>25 because of some assertion of intellectual property</p> <p style="text-align: right;">Page 238</p>	<p>1 extent a response to this question would require you</p> <p>2 to reveal information you only learned from counsel,</p> <p>3 I instruct you not to answer on grounds of</p> <p>4 privilege. But otherwise, you may answer.</p> <p>5 THE WITNESS: I can't answer on the</p> <p>6 grounds of privilege.</p> <p>7 BY MS. HURST:</p> <p>8 Q Do you have information responsive to the</p> <p>9 question? "Yes" or "no"?</p> <p>10 MS. ANDERSON: One moment. All right. As</p> <p>11 long as we have an agreement that his responding to</p> <p>12 the question "yes" or "no" is not a waiver of any</p> <p>13 privilege. I don't believe it is, but I want to</p> <p>14 make sure we have a confirmation from Oracle's</p> <p>15 counsel on the record.</p> <p>16 MS. HURST: I don't believe it is either.</p> <p>17 I don't believe the answer to this question requires</p> <p>18 him to divulge privileged communications.</p> <p>19 MS. ANDERSON: Okay. So you may answer</p> <p>20 just a "yes" or a "no."</p> <p>21 THE WITNESS: If you could repeat the</p> <p>22 question one more time.</p> <p>23 BY MS. HURST:</p> <p>24 Q Have you ever -- pardon me.</p> <p>25 Has any manufacturer asked Google to</p> <p style="text-align: right;">Page 240</p>
<p>1 interests by Microsoft related to Android?</p> <p>2 MS. ANDERSON: Objection; beyond the scope</p> <p>3 and, again, objection on the grounds of privilege to</p> <p>4 the extent you only know a response to this question</p> <p>5 on the basis of a communication with counsel, and in</p> <p>6 that case, it would be privileged. But otherwise,</p> <p>7 you may answer.</p> <p>8 THE WITNESS: I have read and I have heard</p> <p>9 that some Android manufacturers are -- have been</p> <p>10 asked to pay Microsoft, yes.</p> <p>11 BY MS. HURST:</p> <p>12 Q And is that true?</p> <p>13 MS. ANDERSON: Objection; beyond the</p> <p>14 scope. Objection to form.</p> <p>15 THE WITNESS: I have no way to validate</p> <p>16 whether a manufacturer is actually paying Microsoft</p> <p>17 or not. I don't see their bank accounts.</p> <p>18 BY MS. HURST:</p> <p>19 Q Well, has any manufacturer asked Google to</p> <p>20 reimburse it for any payments that it has had to</p> <p>21 make to a third party in respect to that third</p> <p>22 party's assertion of intellectual property</p> <p>23 interests?</p> <p>24 MS. ANDERSON: Objection; beyond the scope</p> <p>25 and also objection on the basis of privilege to the</p> <p style="text-align: right;">Page 239</p>	<p>1 reimburse it for any payments that it had to make to</p> <p>2 a third party in respect of that third party's</p> <p>3 assertion of intellectual property interests? Do</p> <p>4 you have any information -- "yes" or "no" -- on that</p> <p>5 subject?</p> <p>6 MS. ANDERSON: And subject to my statement</p> <p>7 and objections, you may answer "yes" or "no."</p> <p>8 THE WITNESS: I believe so, yes.</p> <p>9 BY MS. HURST:</p> <p>10 Q All right.</p> <p>11 And who did that information come from?</p> <p>12 MS. ANDERSON: You may give a name.</p> <p>13 THE WITNESS: I think it was Susan Kim.</p> <p>14 BY MS. HURST:</p> <p>15 Q And who is Susan Kim?</p> <p>16 MS. ANDERSON: You may identify her title,</p> <p>17 if you're aware of it.</p> <p>18 THE WITNESS: I don't know her title, but</p> <p>19 she's on the legal team.</p> <p>20 BY MS. HURST:</p> <p>21 Q Who does she report to?</p> <p>22 A I don't actually know.</p> <p>23 Q When was the communication or</p> <p>24 communications you had with her on this subject that</p> <p>25 I identified?</p> <p style="text-align: right;">Page 241</p>

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<p>1 MS. ANDERSON: You may provide a date if 2 you -- 3 THE WITNESS: Wow, I don't know the exact 4 date. Maybe a year ago, maybe a little bit less. 5 Let's call it 18 to six months ago. 6 BY MS. HURST: 7 Q Was it a personal one-on-one communication 8 that you had with her? 9 MS. ANDERSON: Objection; form. 10 THE WITNESS: I don't think so. 11 BY MS. HURST: 12 Q Was it a presentation that she made? 13 MS. ANDERSON: Objection; form. 14 THE WITNESS: I don't remember if there 15 was a presentation as in a -- like, a projected 16 document involved. 17 BY MS. HURST: 18 Q What was the form in which Ms. Kim 19 transmitted the information to you? 20 MS. ANDERSON: Objection; form. 21 THE WITNESS: I think verbally. I don't 22 remember if there was any written materials, but I 23 think it was verbally in person. 24 BY MS. HURST: 25 Q Okay.</p> <p style="text-align: right;">Page 242</p>	<p>1 THE WITNESS: And your question was 2 whether I instructed anyone to do anything? 3 BY MS. HURST: 4 Q Did you do anything -- just "yes" or "no." 5 Did you do anything or instruct anyone else to do 6 anything as a result of this communication with 7 Ms. Kim on the topic of third-party requests for 8 reimbursement? 9 MS. ANDERSON: Same objection. Same 10 instruction. 11 THE WITNESS: I don't -- I don't remember. 12 BY MS. HURST: 13 Q Can you tell me anything about any 14 third-party's request for reimbursement from Google 15 related to the assertion of another of intellectual 16 property interests against Android? 17 MS. ANDERSON: Objection; beyond the scope 18 and object on the grounds of privilege. 19 Instruct the witness not to answer to the 20 extent responding would require you to reveal the 21 contents of communications with counsel. But 22 otherwise, you may answer. 23 THE WITNESS: I don't believe I can answer 24 this without divulging privileged information. 25 Any -- if any such requests were to come in, they</p> <p style="text-align: right;">Page 244</p>
<p>1 Was anybody else present? 2 A I'm not sure. 3 Q Who initiated the communication? 4 MS. ANDERSON: Objection; form, and just 5 caution the witness, because this is discussion of a 6 privileged communication, to not disclose the 7 content of the communication, but you may identify 8 the person who initiated it. 9 THE WITNESS: I typically -- not 10 typically. I sync with the legal team from time to 11 time. Typically Susan initiations those. I can't 12 remember in this particular instance who initiated 13 it. 14 BY MS. HURST: 15 Q Did you take any action or instruct anyone 16 else to take any action as a result of this 17 communication? 18 MS. ANDERSON: Let me think about that for 19 a moment. 20 I want to caution the witness on the 21 grounds of privilege. I'd instruct you not to 22 answer the question if responding to the question 23 actually causes you to reveal the communication with 24 counsel. But if you can respond without so doing, 25 you may -- you may do that.</p> <p style="text-align: right;">Page 243</p>	<p>1 would have come in through our legal team, and 2 that's how I would have found out about it, which is 3 why I can't divulge without getting into privileged 4 information. 5 BY MS. HURST: 6 Q Are you refusing to answer the question? 7 MS. ANDERSON: You may answer "yes" or 8 "no." 9 THE WITNESS: On the basis of privilege, 10 yes. 11 BY MS. HURST: 12 Q Have you seen any writing from a 13 third-party requesting reimbursement from Google 14 related to the assertion by another of intellectual 15 property interests against Android? 16 MS. ANDERSON: Objection; beyond the 17 scope, and just caution the witness on the grounds 18 of privilege. But you may respond "yes" or "no" to 19 this question to be sure you don't reveal contents 20 of communications with counsel. 21 THE WITNESS: I don't remember. 22 BY MS. HURST: 23 Q Have you seen any writing wherein Google 24 agrees to pay reimbursement to a third party related 25 to an assertion by another of intellectual property</p> <p style="text-align: right;">Page 245</p>

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<p>1 interests against Android?</p> <p>2 MS. ANDERSON: Same objections. Same</p> <p>3 instruction.</p> <p>4 THE WITNESS: I don't remember.</p> <p>5 BY MS. HURST:</p> <p>6 Q Have you seen any writing from a</p> <p>7 third-party demanding that Google pay with respect</p> <p>8 to an assertion by that party of intellectual</p> <p>9 property interests against Android, other than in</p> <p>10 connection with this lawsuit?</p> <p>11 MS. ANDERSON: Objection; beyond the</p> <p>12 scope. Objection; form.</p> <p>13 THE WITNESS: I'm trying to understand if</p> <p>14 this is the same question that you've asked me</p> <p>15 before, or if it's a different question. To me, it</p> <p>16 sounds like the same question, but I may be</p> <p>17 misunderstanding you.</p> <p>18 BY MS. HURST:</p> <p>19 Q Before I was asking you about requests for</p> <p>20 reimbursement. Now I'm asking you about demands</p> <p>21 directly to Google.</p> <p>22 A Demands directly from Google from --</p> <p>23 Q To Google from somebody else.</p> <p>24 A I see.</p> <p>25 Q That Google pay them.</p> <p style="text-align: right;">Page 246</p>	<p>1 know the response, other than communication through</p> <p>2 counsel, I would instruct you not to answer. But</p> <p>3 otherwise, you may answer. It is also beyond the</p> <p>4 scope.</p> <p>5 THE WITNESS: Let me try it this way: I</p> <p>6 don't think I've ever personally received an e-mail</p> <p>7 asking for money due to intellectual property</p> <p>8 issues. I think that's your question.</p> <p>9 BY MS. HURST:</p> <p>10 Q Well, I'm not asking if you've personally</p> <p>11 received one. I'm asking if you've seen a demand</p> <p>12 that's come from outside of Google to Google</p> <p>13 demanding that Google pay or otherwise respect</p> <p>14 somebody's intellectual property interests.</p> <p>15 MS. ANDERSON: Same objections and same</p> <p>16 instruction.</p> <p>17 BY MS. HURST:</p> <p>18 Q In respect of Android. Not just</p> <p>19 generally.</p> <p>20 A Regarding Android?</p> <p>21 Q Yeah.</p> <p>22 A If I have seen anything like that, it</p> <p>23 would have been privileged.</p> <p>24 Q Okay.</p> <p>25 I'm not asking you about any communication</p> <p style="text-align: right;">Page 248</p>
<p>1 I'm asking you: Have you seen a writing</p> <p>2 from somebody else outside of Google demanding that</p> <p>3 Google pay it in respect of an intellectual property</p> <p>4 assertion against Android?</p> <p>5 MS. ANDERSON: Objection; beyond the</p> <p>6 scope. Objection; form.</p> <p>7 THE WITNESS: I can't answer that without</p> <p>8 divulging privileged information.</p> <p>9 BY MS. HURST:</p> <p>10 Q Well, if the writing was from somebody</p> <p>11 else, that's not privileged because it's outside of</p> <p>12 Google.</p> <p>13 Do you understand?</p> <p>14 So I'm asking you if you've seen a writing</p> <p>15 from somebody that's outside of Google demanding</p> <p>16 payment from Google related to an assertion by that</p> <p>17 party of intellectual property interests against</p> <p>18 Android?</p> <p>19 MS. ANDERSON: Okay. So caution the</p> <p>20 witness, Oracle's counsel is not in a position to</p> <p>21 advise you on privilege issues; they're not your</p> <p>22 counsel.</p> <p>23 I do instruct you that to the extent</p> <p>24 responding to this question requires you inherently</p> <p>25 to reveal a communication with counsel, you don't</p> <p style="text-align: right;">Page 247</p>	<p>1 with the lawyer. I'm just asking about the writing</p> <p>2 from a third party. "Yes" or "no," if you've seen</p> <p>3 one.</p> <p>4 A Still trying to parse your question.</p> <p>5 You're asking whether I've seen someone ask Google</p> <p>6 for money related to Android and intellectual</p> <p>7 property?</p> <p>8 Q Correct. Other than in this lawsuit.</p> <p>9 A Other than in this lawsuit.</p> <p>10 THE WITNESS: And your instructions are to</p> <p>11 not divulge the contents of it but to acknowledge</p> <p>12 "yes" or "no" I've seen it?</p> <p>13 MS. ANDERSON: Well, if you can only</p> <p>14 answer this question because the only way you know</p> <p>15 the answer is from a communication with counsel, I'd</p> <p>16 instruct you not to answer on grounds of privilege.</p> <p>17 But if you can answer the question and not reveal a</p> <p>18 communication with counsel, you may answer.</p> <p>19 MS. HURST: That's an incorrect assertion</p> <p>20 of privilege. If there's a document that exists</p> <p>21 that is itself unprivileged and the witness has seen</p> <p>22 it, the fact that a lawyer gave it to him does not</p> <p>23 make that document privileged and does not entitle</p> <p>24 you to instruct him not to answer.</p> <p>25 MS. ANDERSON: Well, the witness --</p> <p style="text-align: right;">Page 249</p>

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<p>1 MS. HURST: If he reveals that he has seen 2 such a document, I'm not going to take the position 3 that that's a waiver of anything, because it's not. 4 MS. ANDERSON: So let's -- you can ask me 5 a question about privilege in private. So let's go 6 off the record so the witness can ask me. I don't 7 know what the issue is, but we can hopefully resolve 8 it and move on. 9 MS. HURST: Thank you. 10 THE VIDEOGRAPHER: We are off the record 11 at 4:00 p.m. 12 (Whereupon, the witness and counsel 13 left the conference room and 14 returned.) 15 THE VIDEOGRAPHER: We are back on the 16 record at 4:05 p.m. 17 BY MS. HURST: 18 Q Do you have an answer for the question? 19 A If you could ask me the question again. 20 Q Other than with respect to this lawsuit, 21 have you seen a document where somebody was 22 asking -- asserting intellectual property interests 23 against Google in respect to Android? 24 MS. ANDERSON: Same objection. Same 25 instruction.</p> <p style="text-align: right;">Page 250</p>	<p>1 Topic 3. 2 EXAMINATION 3 BY MR. RAMSEY: 4 Q All right, Mr. Lockheimer. I'm Gabe 5 Ramsey, just for the record, also with Orrick for 6 Oracle. 7 So do you understand that today you're -- 8 you're being designated by Google to talk about 9 Google Play Services on behalf of the company? 10 A Yes, I do. 11 Q Okay. 12 And do you understand that one of the 13 topics that you've been put forward to testify about 14 is, and I quote, "Google Play Services, including 15 the nature, purpose and operation of Google Play 16 Services"? 17 Does that sound right? 18 A Sorry? 19 Q Page 7. 20 A Page 7. 21 Q Page 7 of the deposition designation. 22 A It's Number 3. Is that right? 23 Q Correct. 24 A I'm just reading to myself. Ignore me. 25 Yes.</p> <p style="text-align: right;">Page 252</p>
<p>1 THE WITNESS: So I think I remember seeing 2 something from a company called Android or Android 3 Wear in the watch space. I think they were based 4 out of Florida, and they -- I remember vaguely 5 recall seeing something about that. 6 BY MS. HURST: 7 Q Did you -- did Google agree to pay them 8 any money? 9 MS. ANDERSON: Caution the witness to the 10 extent responding to the question would require you 11 to reveal something you only know from a 12 communication of counsel, I instruct you not to 13 answer on grounds of privilege. But otherwise, you 14 may answer. 15 THE WITNESS: I can't answer on the 16 grounds of privilege. 17 MS. HURST: I, again, disagree, either 18 with the propriety of that instruction or the 19 ability of this witness to come here and answer 20 basic questions about Topic 8. Since it's obviously 21 a waste of time for me to keep asking them, I'm 22 going to stop now, but we're going to move to compel 23 on Topic 8 and probably on significant aspects of 24 Topic 2 as well. 25 My colleague is now going to commence on</p> <p style="text-align: right;">Page 251</p>	<p>1 Q All right. 2 So what is Google Play Services? 3 A Google Play Services is somewhat actually 4 similar in concept to what we talked about earlier 5 about the Google mobile platform. It's -- it's a 6 layer on top of Android, a set of APIs on top of 7 Android, which is a collection of various Google 8 products or functionalities or technologies. 9 Q So when did -- 10 When did Google Play Services come into 11 existence? 12 A I'm trying to remember the timeline. I 13 think it was 2011 or 2012, something like that. 14 Q All right. 15 So when you say that Google Play Services 16 is a layer of functionality or technologies, what do 17 you mean? 18 A It's a set of APIs and also features that 19 third- and first-party developers can take 20 advantage of to do something in their application. 21 So I'll give you an example. 22 One of the features that we provide 23 through Google Play Services is the ability for an 24 application to ask for a map to be drawn. And now 25 there are many reasons why an application might</p> <p style="text-align: right;">Page 253</p>

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<p>1 want to draw a map. There aren't that many 2 companies in the world that has the level of 3 detail of the map of the world as Google does, so 4 we provide that as functionality, so that let's 5 say your taxi hail -- hailing app can draw a map 6 so that it can show where the cab is, you know, 7 things like that. That's all provided through 8 Google Play. That's one of the ways in which that 9 functionality is provided through Google Play 10 Services.</p> <p>11 Q So when you said "map functionality," 12 you're talking about the Google Play -- sorry, the 13 Google Maps application functionality or something 14 more general?</p> <p>15 A A subset of the Google Maps 16 functionality. So there are two ways in which -- 17 in the context of our conversation here, there are 18 two ways in which maps can be displayed. Let's say 19 I'm going to use Uber as an example, but I don't 20 actually know if Uber is using Google Play 21 Services, but let's use them as an -- as an example 22 of a taxi app. If you're -- if you're hailing a 23 cab and you want to see yourself on a map to verify 24 that you're calling a cab at the right location, 25 makes sense to show a map. One way to do that is</p> <p style="text-align: right;">Page 254</p>	<p>1 provides. Google Play Services provides features 2 that are on top of Android that are specific and 3 unique to Google, whereas Android provides an 4 operating system where that's a generic that isn't 5 tied to any specific company.</p> <p>6 There are many things -- just as a 7 computer science operating system, platform 8 development perspective, there are many things 9 that just simply do not belong in the Google Play 10 Services layer. They really belong at the 11 operating -- the base operating system layer.</p> <p>12 These are things like the concept of an 13 application, to begin with. What is an 14 application? How does an app developer even start 15 the execution of their code? How do they provide 16 an icon for their application? How do they give 17 their application a name? What happens when a 18 user taps on their icon, or what happens when a 19 user switches to another application and their 20 application is moved to the background, or how do 21 they draw anything on the screen? How do they 22 post notifications, and so on and so forth. 23 There's a long list of functionality that is sort 24 intrinsic in what an operating system is, and I 25 would argue that that functionality is -- there</p> <p style="text-align: right;">Page 256</p>
<p>1 to take you away from the Uber application and 2 launch the Google Maps application or any other 3 application. But that would be pretty clumsy; as a 4 user experience, that would be pretty weird because 5 now you've lost your place in the application and 6 the user can get confused.</p> <p>7 So what Google Play Services provides is 8 a way for -- in this hypothetical example, Uber to 9 show a map directly in its own application. That 10 map happens to be coming from the same place that 11 the map for Google Maps would come from, but it's 12 a way for an application developer to do it in 13 their own app without losing the user to a 14 different app.</p> <p>15 Q Isn't it true that over time Google has 16 moved functionality from other parts of Android into 17 the Google Play Services part of Android?</p> <p>18 A I wouldn't -- I would not agree with that 19 statement.</p> <p>20 Q What don't you agree with in that 21 statement?</p> <p>22 A There are many -- the Android operating 23 system is -- is pretty big in terms of its API 24 and -- and functional sort of feature set. It's a 25 pretty broad set of APIs and features that it</p> <p style="text-align: right;">Page 255</p>	<p>1 are more APIs, for instance, than there are in 2 Google Play Services, and it's not like certain 3 things can be moved from one to the other. It 4 just -- from a computer science perspective, that 5 just wouldn't make sense.</p> <p>6 Q Well, so isn't it true that in 2008, 7 Google released Android under a license called 8 Apache; is that correct?</p> <p>9 MS. ANDERSON: Objection; form.</p> <p>10 THE WITNESS: There was -- the SDK launch 11 was in 2007 and the first device of Android was, 12 yes, 2008.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q Are you aware of something called the 15 Android Open Source Project?</p> <p>16 MS. ANDERSON: Objection; form, beyond the 17 scope.</p> <p>18 THE WITNESS: I have -- I am familiar with 19 Android Open Source, yes.</p> <p>20 BY MR. RAMSEY:</p> <p>21 Q And the Android Open Source Project was -- 22 was released in 2008; is that true?</p> <p>23 MS. ANDERSON: Beyond the scope.</p> <p>24 THE WITNESS: I think that's right. It 25 makes sense that it would be released in 2008 with</p> <p style="text-align: right;">Page 257</p>

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<p>1 the first device. I can't remember if there's</p> <p>2 anything we did with regard to AOSP, or Android Open</p> <p>3 Source Project, in 2007, but certainly by 2008, it</p> <p>4 had been released, yes.</p> <p>5 BY MR. RAMSEY:</p> <p>6 Q Okay.</p> <p>7 So as part of the Android Open Source</p> <p>8 Project in 2008, isn't it true that Android's</p> <p>9 Calendar API code was also released as part of</p> <p>10 Android Open Source Project?</p> <p>11 MS. ANDERSON: Beyond the scope.</p> <p>12 THE WITNESS: I don't know.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q So let me ask you this about Google Play</p> <p>15 Services: Is Google Play Services a collection of</p> <p>16 APIs or something different?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: It's -- at a minimum, it's a</p> <p>19 collection of APIs and functionality that isn't</p> <p>20 necessarily APIs. So it's -- it's more than a</p> <p>21 collection of APIs.</p> <p>22 BY MR. RAMSEY:</p> <p>23 Q What type of functionality beyond APIs is</p> <p>24 in Google Play Services?</p> <p>25 A Let me think of an example. Typically</p> <p style="text-align: right;">Page 258</p>	<p>1 system-related APIs. Those APIs are open sourced as</p> <p>2 part of Android.</p> <p>3 BY MR. RAMSEY:</p> <p>4 Q But in order to create an application for</p> <p>5 the Android operating system, a developer may use</p> <p>6 the APIs embodied within Google Play Services?</p> <p>7 MS. ANDERSON: Objection; form.</p> <p>8 THE WITNESS: I think the operative word</p> <p>9 there is "may." They don't have to. It's not</p> <p>10 mandatory that they do. They can choose to if they</p> <p>11 want, let's say, to use our services, Google</p> <p>12 services, to draw a map, but they could certainly go</p> <p>13 to someone else's SDK and get a map from someone</p> <p>14 else as well. So it's purely sort of based on</p> <p>15 developer choice.</p> <p>16 BY MR. RAMSEY:</p> <p>17 Q Why does Google choose to keep its Google</p> <p>18 Play Services' APIs secret?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 THE WITNESS: Well, the APIs themselves</p> <p>21 are not secret by definition, because the APIs need</p> <p>22 to be made available to developers so that they can</p> <p>23 develop against it. So the APIs are not secret.</p> <p>24 BY MR. RAMSEY:</p> <p>25 Q So why does Google elect to keep its</p> <p style="text-align: right;">Page 260</p>
<p>1 these are functionalities that aren't best</p> <p>2 expressed as an application because if it was best</p> <p>3 expressed as an application, it would just be an</p> <p>4 application. These are functionalities like -- oh,</p> <p>5 security related. We have a functionality that if</p> <p>6 the user opts in, we'll scan their device on a</p> <p>7 regular basis to make sure there's no malware or,</p> <p>8 you know, viruses, things like that. That</p> <p>9 functionality is built into and deployed through</p> <p>10 Google Play Services, not necessarily an API for</p> <p>11 third parties to take advantage of. It's just a</p> <p>12 sort of functionality that -- that is delivered</p> <p>13 that way.</p> <p>14 Q Does Google release the code for Google</p> <p>15 Play -- for Google Play Services openly for anybody</p> <p>16 to do what they want with?</p> <p>17 A No. Google Play Services, much like most</p> <p>18 of Google's proprietary applications, are not open</p> <p>19 sourced.</p> <p>20 Q So they're Android-related APIs within</p> <p>21 Google Play Services that are proprietary?</p> <p>22 MS. ANDERSON: Objection; form.</p> <p>23 THE WITNESS: I wouldn't say they're</p> <p>24 Android related. These are APIs that work on top of</p> <p>25 Android, but they are not Android operating</p> <p style="text-align: right;">Page 259</p>	<p>1 Google Play Services' APIs proprietary?</p> <p>2 MS. ANDERSON: Objection; form.</p> <p>3 THE WITNESS: Again, the APIs themselves</p> <p>4 are not secret or proprietary. These are</p> <p>5 well-documented APIs.</p> <p>6 BY MR. RAMSEY:</p> <p>7 Q If I'm a company wanting to -- to change</p> <p>8 the Google Play Services' APIs, would Google just</p> <p>9 allow me to come without any license and do that?</p> <p>10 MS. ANDERSON: Objection; form.</p> <p>11 THE WITNESS: They wouldn't be able to</p> <p>12 because they don't have source code to the</p> <p>13 implementation of Google Play Services.</p> <p>14 BY MR. RAMSEY:</p> <p>15 Q So why doesn't Google just provide any</p> <p>16 company that comes and asks for it the Google Play</p> <p>17 Services' source code including the APIs?</p> <p>18 MS. ANDERSON: One minute. Objection to</p> <p>19 form and a little bit beyond the scope for this</p> <p>20 witness on Topic 3 given the limitation of the part</p> <p>21 of it that he's designated on, but you may answer of</p> <p>22 your personal knowledge.</p> <p>23 THE WITNESS: I didn't say the APIs</p> <p>24 were -- were proprietary, but I think your question</p> <p>25 indicated that I said that.</p> <p style="text-align: right;">Page 261</p>

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<p>1 What I -- what I will say is, there's a 2 distinction between Android, the generic operating 3 system, which is fully open sourced. Again, Android 4 doesn't know anything about any particular company. 5 It doesn't know about Google, it doesn't know about 6 Oracle, it doesn't know about Yahoo, Microsoft, 7 anyone. It's a generic operating system. 8 But there are many services that customers 9 expect these days, like mapping, that does require 10 some company to be hosting this information. So, 11 for example, Google Maps, there's an application 12 called Google Maps, but there's also a server back 13 end that is powering the Google Maps experience. 14 None of that is open sourced on any platform, and so 15 Google Play Services, because it is similar in 16 concept to that type of operation where it's a 17 specific thing about Google that relies on Google 18 back ends, we've made the decision as a company to 19 keep that implementation private so that we can 20 update it and change it in certain ways to make it 21 more efficient or -- or add more functionalities. 22 But the -- but we make the APIs publicly 23 available so that developers may benefit from that 24 functionality without being burdened with the 25 knowledge of how we've done it.</p> <p style="text-align: right;">Page 262</p>	<p>1 similar sort of concept in terms of layering. 2 BY MR. RAMSEY: 3 Q So in 2008, why was Google's Calendar code 4 released as part of the Android Open Source Project 5 and later removed from that Android Open Source 6 Project? 7 MS. ANDERSON: Objection; form, beyond the 8 scope. 9 THE WITNESS: I don't know if that's 10 actually what happened. But if I were to take your 11 word for it that that's what happened, I would say 12 it's because there was a realization that -- that 13 certain things that are not -- that are specific to 14 Google may have gone into the generic operating 15 system portion, violating the layering that I 16 mentioned, and maybe that was correct. 17 Again, I don't know the specific of this, 18 so I'm speculating for you, but that would be a 19 computer science answer. 20 BY MR. RAMSEY: 21 Q So it's true that the Google Calendar 22 functionality has been moved to Google Play Services 23 from the Android Open Source Project, right? 24 MS. ANDERSON: Objection; form. 25 THE WITNESS: I did not say that. I said</p> <p style="text-align: right;">Page 264</p>
<p>1 BY MR. RAMSEY: 2 Q Why aren't the APIs within Google Play 3 Services contained lower in the stack in Android? 4 MS. ANDERSON: Objection; form. 5 THE WITNESS: Again, this comes back to, I 6 think, operating system sort of computer science 7 principles. Typically when you're developing 8 software in general but especially operating 9 systems, you pay close attention to how you're 10 layering various functionalities. 11 At a core operating system level, things 12 like the notion of an application, what happens when 13 you launch an application and so on, what I 14 mentioned a few minutes ago, those are core 15 operating system concepts. 16 But when it comes to specific apps and 17 services that are tied to Google, again, those 18 are -- those are very specific to Google and they 19 are built on top of the operating system. So 20 they're higher up in the stack, and so it makes 21 sense from a computer science perspective to 22 separate these things out. 23 Just like an application isn't built into 24 the OS. An application is, by definition, a thing 25 that's on top of the operating system. It's a</p> <p style="text-align: right;">Page 263</p>	<p>1 hypothetically if I were to take your word for it, 2 but I don't actually know if that happened. 3 BY MR. RAMSEY: 4 Q So did you do any investigation as to the 5 nature, purpose and operation of Google Play 6 Services before today? 7 MS. ANDERSON: Objection; form. 8 THE WITNESS: Well, I'm very familiar with 9 Google Play Services. I was actually one of the 10 people that came up with the concept and idea of it. 11 I have a patent on it, in fact, so I'm very familiar 12 with it over my career at Google, so I would -- I 13 would say that was -- that's how I prepared for it. 14 BY MR. RAMSEY: 15 Q So do you think that intellectual property 16 relating to this -- this development platform known 17 as Android is important? Is that important to 18 Google? 19 MS. ANDERSON: Objection; form, beyond the 20 scope. 21 THE WITNESS: Say that again. Sorry. 22 BY MR. RAMSEY: 23 Q Would you say that intellectual property 24 relating to the development platform known as 25 Android is important to Google?</p> <p style="text-align: right;">Page 265</p>

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<p>1 MS. ANDERSON: Objection; form, beyond the 2 scope.</p> <p>3 THE WITNESS: Intellectual property 4 related to the development of Android is important 5 to Google. Well, I don't know how to answer that. 6 I mean, of course, following all laws and -- and 7 sort of doing the right thing is important for 8 Google in general, and so, for instance, there was a 9 conversation earlier today about the GPL, and I 10 mentioned we have processes in place to make sure we 11 follow the GPL and so on, so we take -- we take 12 concerns like that very seriously, yes.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q So my question was actually -- you 15 agree -- you mentioned you have a patent that 16 relates to Google Play Services, correct?</p> <p>17 A I did mention that, yes.</p> <p>18 Q And Google Play Services is related to the 19 Android platform in some way, correct?</p> <p>20 MS. ANDERSON: Objection; form.</p> <p>21 THE WITNESS: Incorrect. Google Play 22 Services is separate from the Android platform.</p> <p>23 BY MR. RAMSEY:</p> <p>24 Q All right.</p> <p>25 So can you use Google Play Services</p> <p style="text-align: right;">Page 266</p>	<p>1 three, four years ago so I don't remember all the 2 details, but I do believe mapping, the APIs that I 3 discussed earlier about Maps, was one of them. I'm 4 sure there were others, but I don't -- I don't 5 remember the exhaustive list.</p> <p>6 Q So what year, again, was Google Play 7 Services first released?</p> <p>8 A I think it was 2011 or 2012, something 9 around then.</p> <p>10 Q So when Google Play Services was first 11 released, was there any search functionality enabled 12 or contained within Google Play Services?</p> <p>13 A I'm not sure. I don't think so, but I'm 14 not 100 percent sure.</p> <p>15 Q Is there any search functionality enabled 16 or contained within Google Play Services today?</p> <p>17 A Yes, I believe so.</p> <p>18 Q So why -- why has there been a change to 19 include the enablement or inclusion of search 20 functionality in Google Play Services today?</p> <p>21 A Well, the search functionality that I'm 22 thinking of that's built into Google Play Services, 23 that I think is built into Google Play Services 24 today, is something that's known as icing, just 25 like icing on the cake. It is a way for</p> <p style="text-align: right;">Page 268</p>
<p>1 independently of the Android platform?</p> <p>2 MS. ANDERSON: Objection; form.</p> <p>3 THE WITNESS: I don't think so.</p> <p>4 BY MR. RAMSEY:</p> <p>5 Q Okay.</p> <p>6 So the only function of Google Play 7 Services is in connection with the Android platform?</p> <p>8 A It is a service or functionalities built 9 on top of the Android platform. But that's kind of 10 like saying, you know, the Facebook app for Android 11 is part of Android because it's built on top of 12 Android. I don't think anyone would agree with 13 that statement.</p> <p>14 And very similarly, the Google Play 15 Services is something on top of the Android 16 platform. Doesn't mean that it's part of the 17 Android platform.</p> <p>18 Q So what functionalities were contained in 19 the Google Play Services code when it was the first 20 released?</p> <p>21 MS. ANDERSON: Objection; form.</p> <p>22 THE WITNESS: What functionality?</p> <p>23 BY MR. RAMSEY:</p> <p>24 Q Correct.</p> <p>25 A I don't remember. It was, you know,</p> <p style="text-align: right;">Page 267</p>	<p>1 applications to have some algorithm that's built 2 into Google Play Services do a local search -- 3 local indexing on the device for you. So it's not 4 really Google Search on the Web. It's more 5 searching for contents on your device. So an 6 example I could give is if you are building, let's 7 say, an e-mail application and you want to provide 8 a way for your users to look for their e-mails on 9 their device, even if they're not connected to the 10 network, icing is a -- is a sort of functionality 11 that could provide them that functionality.</p> <p>12 Q There have been public reports that 13 there's a number of functionalities that were 14 initially included in the Android Open Source 15 Project that have since been removed and added to 16 Google Play Services' proprietary code.</p> <p>17 Are you aware of those?</p> <p>18 MS. ANDERSON: Objection; form, beyond the 19 scope.</p> <p>20 THE WITNESS: I've seen some articles on 21 Google Play Services that I've mentioned a number of 22 things. I can't specifically remember an article, 23 but I feel like I've read some things like that.</p> <p>24 BY MR. RAMSEY:</p> <p>25 Q So why over time is Google removing code</p> <p style="text-align: right;">Page 269</p>

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<p>1 from Android Open Source Project and moving that 2 functionality into Google Play Services? 3 MS. ANDERSON: Same objections. 4 THE WITNESS: Yeah. So I think, again, 5 that there's an assumption built into your statement 6 that I don't necessarily agree with. Where it makes 7 sense per the description I gave earlier, you know, 8 for an operating system, there are things that make 9 sense for an operating system. There are certain 10 things that don't make sense for an operating 11 system. Those things that are Google specific 12 belong in Google Play Services. If it's application 13 specific, it belongs in the application. 14 So an example I would give is, you know, 15 functionality that lets you "Like" something 16 probably belongs in the Facebook app because that's 17 Facebook's concept. Doesn't belong in operating 18 system, certainly doesn't belong in Google Play 19 Services because that's Facebook's. And so it makes 20 sense for that to live in the Facebook app. 21 Similarly, functionality that requires or 22 depends on Google servers, like mapping, makes sense 23 in Google Play Services and not the base operating 24 system, because the base operating system doesn't 25 know anything about any specific company or any</p> <p style="text-align: right;">Page 270</p>	<p>1 Google I/O. 2 Some examples include material design. We 3 came up with a new user interface, user design 4 guideline and paradigm. There are a lot of APIs 5 associated with material design. I don't remember 6 if this was in L or M, M for marshmallow, but we 7 recently added new APIs that enables application 8 developers to, when -- when a word is selected on 9 the screen, to pop up a little menu right next to 10 the word so that they could quickly -- users could 11 quickly take action. So on and so on. The list 12 goes on and on. 13 BY MR. RAMSEY: 14 Q So is it true that you, Google, have 15 included APIs within Android that would not be 16 understood in the Java programming environment? 17 MS. ANDERSON: Objection; form, beyond the 18 scope. 19 THE WITNESS: I'm trying to understand 20 your question. APIs that would not -- 21 BY MR. RAMSEY: 22 Q Let me rephrase my question. 23 You've just stated that a number of new 24 APIs that Google has added to Android, correct? 25 A Correct.</p> <p style="text-align: right;">Page 272</p>
<p>1 servers or anything like that. So that's -- that's 2 just the basic sort of mental model that we use when 3 we design APIs and functionalities; we put it where 4 it makes sense from a computer science perspective. 5 The other thing I would point out is while 6 we've added more and more functionality into Google 7 Play Services to make the developer experience more 8 efficient, we've also been adding a lot of APIs to 9 Android as well. So, for instance, when the Android 10 platform L -- I think it was L -- that launched, 11 Lollipop, we talked about how we've added 3,000 new 12 APIs to Android itself. So just as we've been 13 adding functionality into Google Play Services, 14 we've also been adding functionality directly into 15 Android as well. 16 BY MR. RAMSEY: 17 Q Give me some examples of the 3,000 APIs 18 that you just asserted have been added to Android. 19 A Yeah. 20 MS. ANDERSON: Objection; beyond the 21 scope. 22 THE WITNESS: Sure. Happy to do that. 23 There's also a long keynote session on this that -- 24 there's a recording of this on the Internet as well. 25 We made a big deal about it a year and a half ago at</p> <p style="text-align: right;">Page 271</p>	<p>1 Q And those APIs, you agree, are not in the 2 Java programming platform; those are -- those are 3 new and different? 4 MS. ANDERSON: Objection; beyond the 5 scope. 6 THE WITNESS: Well, I'm talking about the 7 Android platform right now. Not talking about any 8 other platform. 9 BY MR. RAMSEY: 10 Q Okay. 11 So simple question: Just are the new APIs 12 that you've just asserted have been added to Android 13 also present, to your knowledge, in the Java 14 platform? 15 MS. ANDERSON: Beyond the scope. 16 THE WITNESS: Not that I'm aware of. 17 BY MR. RAMSEY: 18 Q So do you understand something about Java 19 programming? Do you have a general familiarity? 20 A Very, very general. 21 Q Okay. 22 Have you ever written a program in the 23 Java platform? 24 A Like a "Hello World" type of thing 15 25 years ago or something like that.</p> <p style="text-align: right;">Page 273</p>

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<p>1 Q Okay.</p> <p>2 So let's say you were writing a Java</p> <p>3 program, your "Hello World" that needed to use the</p> <p>4 materials API and you were writing that code.</p> <p>5 Can you make that assumption?</p> <p>6 MS. ANDERSON: Beyond the scope.</p> <p>7 THE WITNESS: Yeah, that doesn't compute.</p> <p>8 If you're using material design, you're most likely</p> <p>9 going to be doing it with the Android platform.</p> <p>10 BY MR. RAMSEY:</p> <p>11 Q Okay.</p> <p>12 So this material API, it's your</p> <p>13 understanding that it would not be understood if --</p> <p>14 if -- over by the Java platform; is that right?</p> <p>15 MS. ANDERSON: Objection; form, beyond the</p> <p>16 scope.</p> <p>17 THE WITNESS: I feel like we're comparing</p> <p>18 apples and oranges. I'm talking about Android,</p> <p>19 you're talking about something that isn't Android.</p> <p>20 They're not related.</p> <p>21 BY MR. RAMSEY:</p> <p>22 Q So somebody who used some of the new</p> <p>23 Android APIs that you've mentioned would not be able</p> <p>24 to take that program and make it work over on Java</p> <p>25 platform; is that right?</p> <p style="text-align: right;">Page 274</p>	<p>1 A I think I do.</p> <p>2 Q Okay.</p> <p>3 Search, Calendar, Cloud Messaging, Chrome,</p> <p>4 Context, Keyboards, Music, Gallery, Wallet.</p> <p>5 Do you understand that list of</p> <p>6 functionalities that I've just mentioned in Android?</p> <p>7 MS. ANDERSON: Objection; form.</p> <p>8 THE WITNESS: Do I understand it as in in</p> <p>9 isolation do I know what Chrome is? Yes, I know</p> <p>10 what Chrome is. I forget the other ones. Keyboard,</p> <p>11 I think I know it. It's pretty vague, though. You</p> <p>12 know, keyboard could refer to a multiple -- multiple</p> <p>13 number of things. So I'm not sure what exactly it</p> <p>14 means. Some are kind of vague, but generally.</p> <p>15 Maybe you can ask more specific questions</p> <p>16 and then we can go from there.</p> <p>17 BY MR. RAMSEY:</p> <p>18 Q Well, the list I've just mentioned,</p> <p>19 Search, Calendar, Cloud Messaging, Chrome, Contacts,</p> <p>20 Keyboards Music Gallery and wallet, were all code</p> <p>21 that was initially released as part of the Android</p> <p>22 Open Source Project, correct?</p> <p>23 MS. ANDERSON: Objection; form, beyond the</p> <p>24 scope.</p> <p>25 THE WITNESS: I don't -- actually, I don't</p> <p style="text-align: right;">Page 276</p>
<p>1 MS. ANDERSON: Objection; beyond the</p> <p>2 scope, form.</p> <p>3 THE WITNESS: If the Java platform isn't</p> <p>4 Android, then, no. I'm talking about Android APIs</p> <p>5 at the moment.</p> <p>6 BY MR. RAMSEY:</p> <p>7 Q And these -- these large number of new</p> <p>8 APIs that you've -- you've just mentioned in</p> <p>9 Android, is Google willing to give those to Oracle</p> <p>10 to use?</p> <p>11 MS. ANDERSON: Objection; form and scope.</p> <p>12 THE WITNESS: Well, we've -- we've open</p> <p>13 sourced the implementations of all of those APIs as</p> <p>14 part of the Android Open Source Project. So it's</p> <p>15 anyone can use it.</p> <p>16 BY MR. RAMSEY:</p> <p>17 Q Okay.</p> <p>18 And so -- I want to go back to Google Play</p> <p>19 Services for a moment.</p> <p>20 So are you --</p> <p>21 I'm going to read to you a list of</p> <p>22 functionalities, and I'd like your opinion whether</p> <p>23 these functionalities were -- were -- were first</p> <p>24 code released in the Android Open Source Project.</p> <p>25 Do you understand?</p> <p style="text-align: right;">Page 275</p>	<p>1 agree with that.</p> <p>2 BY MR. RAMSEY:</p> <p>3 Q Okay.</p> <p>4 So are the functionalities I just</p> <p>5 mentioned code that Google holds proprietary in its</p> <p>6 Android environment?</p> <p>7 MS. ANDERSON: Objection; form, beyond the</p> <p>8 scope.</p> <p>9 THE WITNESS: So, for instance, Chrome, I</p> <p>10 don't think was initially open source, but then has</p> <p>11 since been open source. So it's actually the</p> <p>12 opposite of what you're saying. If I remember</p> <p>13 correctly, it went in the opposite direction of what</p> <p>14 you're asserting, which is that it was initially</p> <p>15 private, but then it became public.</p> <p>16 That's for Chrome, the browser. Keyboard,</p> <p>17 I think I understand where you're headed here now.</p> <p>18 I don't agree with it, but I understand where you're</p> <p>19 headed, which is there was an open source</p> <p>20 implementation of the keyboard. There still</p> <p>21 probably is an open source implementation of the</p> <p>22 keyboard. We've since created a Google Keyboard</p> <p>23 which has special functionality that is specific to</p> <p>24 Google, and that's, you know, similar to the</p> <p>25 conversation we had about Google Play Services.</p> <p style="text-align: right;">Page 277</p>

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<p>1 This is a Google product so it's proprietary, but 2 there still is an open source keyboard 3 implementation that's available for everyone to -- 4 to take and to modify and -- and play with as well. 5 BY MR. RAMSEY: 6 Q Is the Google proprietary keyboard 7 functionality contained within Google Play Services? 8 MS. ANDERSON: Objection; form. 9 THE WITNESS: I believe they are 10 independent of each other. 11 BY MR. RAMSEY: 12 Q Is the prior open source keyboard 13 implementation that was part of Android Open Source 14 Project maintained continually by -- by Google or 15 not? 16 MS. ANDERSON: Beyond the scope, form. 17 THE WITNESS: Specifically on the 18 keyboard, I'm not sure. But generally, we try to 19 make sure that there is a -- at least an 20 implementation of these -- these capabilities in 21 open source, even if we've created now versions that 22 are specific to Google because it's just good 23 engineering practice to do that. And what I mean by 24 that is when you're developing an operating system 25 and when you're developing APIs, it's important that</p> <p style="text-align: right;">Page 278</p>	<p>1 application-level thing. 2 But there are many things that we can do 3 to help users type more efficiently if we combine 4 knowledge that Google has about the world. Here's 5 an example: Pronouns. So when you're typing on a 6 keyboard, of course, we could do it just like a 7 typewriter where you type one character at a time, 8 and the keyboard just dutifully, you know, copies 9 what you type into text entry field, but one of the 10 innovations that have happened in the world -- I'm 11 not saying Android or Google is taking credit for 12 this, but one of the things that has happened is 13 sort of text prediction. So you type maybe T-H, and 14 now the keyboard is suggesting "the" for you or 15 "there" for you because it assumes those -- these 16 are the words that you're going to type. 17 Well that, again, by itself, you don't 18 really need Google's help there. You could have a 19 big dictionary, a list of words on the device that 20 the keyboard can consult, then look up and say "Oh, 21 this is probably the word that the person is trying 22 to type." 23 But what about pronouns, what about 24 people's names or names of places or names of events 25 or recent -- recent things that have happened?</p> <p style="text-align: right;">Page 280</p>
<p>1 you're able to test out these APIs. And in order to 2 test out these APIs, sometimes it's easiest for the 3 people who are developing the APIs to build a 4 corresponding application to test out their work. 5 And so it's good practice for us to have 6 open source equivalents of these to just make sure 7 that we're able to validate the APIs on an ongoing 8 basis. 9 BY MR. RAMSEY: 10 Q Why does Google keep its Keyboard 11 implementation proprietary? 12 MS. ANDERSON: Objection; form, beyond the 13 scope. 14 THE WITNESS: The Keyboard -- again, there 15 are multiple implementations of Keyboard. There 16 certainly was an open source version of the 17 Keyboard, which was, you know -- it would draw a 18 keyboard on the screen -- we're talking about touch 19 screen-based devices, right, so it draws a keyboard 20 on the screen, it has, you know, the letters of the 21 alphabet there, and when a user presses a certain 22 letter, the letter appears on screen. That -- that 23 functionality obviously in its -- sort of at its 24 core, doesn't require anything about Google. It's 25 just an operating system level, sort of an</p> <p style="text-align: right;">Page 279</p>	<p>1 These -- it's not practical to have all this in the 2 dictionary on the device at all times. 3 But Google certainly knows about these 4 things because Google is crawling the Web all the 5 time and it knows about things that are happening in 6 the world. So these are reasons why we believe 7 Google is able to make users' lives -- sort of 8 enrich users' lives or simplify their -- their 9 tasks. By adding little bit of smarts here and 10 there, we can really help users. And -- and that 11 API at Google to get the list of sort of common 12 trending words is a proprietary API. I'm just using 13 that as an example. 14 BY MR. RAMSEY: 15 Q So you've just given me a long example. 16 You've described to me how you believe that Google 17 has created code with respect to the Keyboard 18 functionality in the Android that is -- that is, you 19 believe, to be valuable; is that true? 20 A Right. We believe that we are adding 21 value by -- in the example that I gave by helping 22 users predict or make it easier for users to type. 23 The example I gave was pronouns; that may be not in 24 the dictionary on the device but that -- that 25 Google on the Web may know about.</p> <p style="text-align: right;">Page 281</p>

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<p>1 Q And that code with respect to the Keyboard 2 functionality in Android is something that Google 3 holds proprietary? 4 A That portion of the Keyboard where it 5 talks to the Google servers to get the latest list 6 of pronouns, for instance, certainly is a Google 7 proprietary technology, yes. 8 Q Why doesn't Google give away, for example, 9 the Keyboard functionality code that we've just 10 mentioned that it believes is so valuable for users? 11 MS. ANDERSON: Beyond the scope. 12 THE WITNESS: When you say "we've 13 mentioned," you're talking about the example I gave? 14 BY MR. RAMSEY: 15 Q Correct. 16 A Well, that's a business decision on 17 Google's part, right? I mean, I guess you could 18 ask the same thing about everything. You could 19 say, "Well, why doesn't Google open source its 20 search engine"? 21 Q Why doesn't Google open source its search 22 engine within the context of Android? 23 A Good question. 24 MS. ANDERSON: Beyond the scope. 25 THE WITNESS: Good question, but it's a</p> <p style="text-align: right;">Page 282</p>	<p>1 Android. That is a Google service, not really an 2 Android thing. 3 Q Do you have any knowledge whether Google 4 Play Services utilizes the Java APIs that are at 5 issue in this -- this lawsuit? 6 MS. ANDERSON: Objection; form, beyond the 7 scope. 8 THE WITNESS: I do not know. 9 BY MR. RAMSEY: 10 Q Do you have any idea whether the Java APIs 11 that are at issue in this lawsuit are reproduced 12 within the Google Play Services code base? 13 MS. ANDERSON: Same objections. 14 THE WITNESS: I don't know. 15 BY MR. RAMSEY: 16 Q Do you know what a class library is? Have 17 you heard that term? 18 A I've heard of that term. I don't know 19 what it is. 20 Q Okay. 21 Did you do any investigation to prepare 22 today to determine whether Google Play Services uses 23 or relies on the Java APIs that are alleged to have 24 been taken by Google? 25 MS. ANDERSON: Same objections.</p> <p style="text-align: right;">Page 284</p>
<p>1 business decision and, you know, I think we've done 2 the open source community a huge -- given them a 3 huge boost by open sourcing Android. This is, I 4 think, one of the biggest open source projects in 5 the world. You know, it -- it, you know, deployed 6 in -- in, you know, however many devices we've 7 already talked about. It's a very big deal for the 8 open source community, so I feel pretty -- pretty 9 comfortable in -- in sort of how we've been working 10 with the open source community. 11 BY MR. RAMSEY: 12 Q Yet there's still code that relates to 13 Android that is -- that Google does not open source. 14 It's always a business decision, I think is what you 15 said, right, what to open source and what not to? 16 MS. ANDERSON: Objection; beyond the 17 scope. 18 THE WITNESS: Again, you used the word 19 "relate to Android." I slightly object to that 20 phrasing. I'll use the Facebook example again, 21 right? Facebook hasn't necessarily, as far as I 22 know, open sourced their Facebook app. It runs on 23 Android. Does that relate to Android? I don't 24 know. I mean, it's a Facebook app, right? So 25 similarly, Google has applications that run on</p> <p style="text-align: right;">Page 283</p>	<p>1 THE WITNESS: I have not looked at Java 2 APIs in relation to Google Play Services, no. I'm 3 very familiar with Google Play Services as a concept 4 and as we've talked about. 5 BY MR. RAMSEY: 6 Q Are you -- are you familiar with the code 7 of Google Play Services? 8 A No. 9 Q All right. 10 So who on your team is familiar with the 11 code of Google Play Services? 12 A Oh, there are many people. Google Play 13 Services is a pretty big project now. So there are 14 many people who are familiar with bits and piece of 15 it. I would say there's no single person who knows 16 it in its entirety. 17 Q You said that you were one of the people 18 who came up with the concept for Google Play 19 Services, I believe; is that right? 20 A Something like that. I did say something 21 like that, yes. 22 Q When you were creating Google Play 23 Services, did you take any steps to make sure that 24 the Java APIs asserted in this case were not used 25 without authorization?</p> <p style="text-align: right;">Page 285</p>

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<p>1 MS. ANDERSON: Objection; form.</p> <p>2 THE WITNESS: No, I didn't -- I didn't --</p> <p>3 I was not thinking about the Java APIs when I was</p> <p>4 thinking about Google Play Services.</p> <p>5 BY MR. RAMSEY:</p> <p>6 Q Do you have any understanding of why the</p> <p>7 Java APIs that are asserted in this case are used</p> <p>8 within the Android platform?</p> <p>9 MS. ANDERSON: Objection; form and beyond</p> <p>10 the scope.</p> <p>11 THE WITNESS: Can you repeat that</p> <p>12 question?</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q Do you have any understanding of why the</p> <p>15 Java APIs asserted in this case are used within the</p> <p>16 Android platform?</p> <p>17 MS. ANDERSON: Objection; form and beyond</p> <p>18 the scope.</p> <p>19 THE WITNESS: Why the Java APIs asserted</p> <p>20 in this case are used in the Android platform. Do I</p> <p>21 have an understanding of that? No.</p> <p>22 BY MR. RAMSEY:</p> <p>23 Q Is it true that --</p> <p>24 Isn't it true that you were one of the</p> <p>25 people who initially helped develop the Android</p> <p style="text-align: right;">Page 286</p>	<p>1 think about Google Play Services?</p> <p>2 A I started thinking about -- personally --</p> <p>3 now I'm talking about me personally now, started</p> <p>4 thinking about Google Play Services as I</p> <p>5 realized -- this was, as I pointed out, Google --</p> <p>6 sorry, Android launched -- the first Android device</p> <p>7 launched in 2008, October 2008. And Google Play</p> <p>8 Services, as I mentioned earlier, I think, launched</p> <p>9 in 2011 or 2012, something like that. So a number</p> <p>10 of years had passed since the launch of Android.</p> <p>11 One of the realizations over those few</p> <p>12 years that I had was that a lot of developers were</p> <p>13 looking for not only basic operating system-type</p> <p>14 APIs, that I've discussed at length, but also</p> <p>15 additional functionality, like mapping, that</p> <p>16 really the only way we could think of providing</p> <p>17 was through something like Google Play Services</p> <p>18 because it just didn't make sense for us to build</p> <p>19 that type of functionality, like mapping, into the</p> <p>20 base operating system, for all the reasons I</p> <p>21 mentioned earlier.</p> <p>22 Q Does the existence of Google Play Services</p> <p>23 help Google combat fragmentation of Android?</p> <p>24 MS. ANDERSON: Objection; form.</p> <p>25 THE WITNESS: Which form of fragmentation</p> <p style="text-align: right;">Page 288</p>
<p>1 platform back in 2006 and thereafter?</p> <p>2 MS. ANDERSON: Beyond the scope.</p> <p>3 THE WITNESS: If anyone in Mountain View</p> <p>4 heard you ask that question, they would be laughing</p> <p>5 right now. I haven't written a line of code since</p> <p>6 I've been at -- since I've been at Google.</p> <p>7 BY MR. RAMSEY:</p> <p>8 Q All right.</p> <p>9 You were involved, at the very least, in</p> <p>10 facilitating the development of Android back in</p> <p>11 2006, correct?</p> <p>12 MS. ANDERSON: Objection; form, beyond the</p> <p>13 scope.</p> <p>14 THE WITNESS: Facilitating, I guess, in</p> <p>15 the sense that I was part of the team; more on the</p> <p>16 management side. We talked about my career</p> <p>17 progression earlier, joining as a technical program</p> <p>18 manager and getting promoted subsequently, yes.</p> <p>19 BY MR. RAMSEY:</p> <p>20 Q At that time, did -- in 2006 was there any</p> <p>21 discussion of Google Play Services?</p> <p>22 MS. ANDERSON: Beyond the scope.</p> <p>23 THE WITNESS: In 2006, no.</p> <p>24 BY MR. RAMSEY:</p> <p>25 Q What was the genesis of why you started to</p> <p style="text-align: right;">Page 287</p>	<p>1 are you referring to now?</p> <p>2 BY MR. RAMSEY:</p> <p>3 Q So, for example, different OEMs who have</p> <p>4 different -- slightly different implementations of</p> <p>5 Android on their phones.</p> <p>6 MS. ANDERSON: Objection; form.</p> <p>7 THE WITNESS: Not really. That certainly</p> <p>8 wasn't the goal, but -- even if it was the goal,</p> <p>9 which it wasn't, but even if it were the goal, it --</p> <p>10 it doesn't help. That's not -- that's not what it's</p> <p>11 meant to do.</p> <p>12 BY MR. RAMSEY:</p> <p>13 Q Is there any form of fragmentation along</p> <p>14 any dimension that Google Play Services helped to</p> <p>15 combat?</p> <p>16 A There is one -- one area where Google</p> <p>17 Play Services does help, which is that, again,</p> <p>18 being a layer on top of the base operating system</p> <p>19 that is Android, it's also deployed differently</p> <p>20 than Android, the OS, so the Android operating</p> <p>21 system is open source, it's shared with</p> <p>22 manufacturers. Manufacturers take the source code</p> <p>23 for Android, and they make their modifications and</p> <p>24 they build the device and going through CDD and</p> <p>25 CTS, as we talked about earlier.</p> <p style="text-align: right;">Page 289</p>

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<p>1 That means the manufacturers are largely 2 in control of the software of that device, the 3 Android software of that device. So they're 4 responsible for launching it, they're responsible 5 for maintaining it and updating it and so on. The 6 nice thing about Google Play Services is at least 7 for the portions of functionality and APIs that 8 are included in Google Play Services, we are able 9 to update it, update them independent of the 10 operating system.</p> <p>11 So the example I gave earlier about 12 security, you know, how there's functionality 13 built into Google Play Services that help with 14 detecting malware on your device. If we ever 15 develop new technologies -- and we do this all the 16 time -- that help us get better at detecting 17 malware, we're able to update that functionality 18 irrespective of the base operating system or what 19 the manufacturer does. So in that sense, you 20 know -- I guess version fragmentation, you're 21 asking what form of fragmentation. Version 22 fragmentation is one -- one sort of slight sliver 23 of it, Google Play Services does help.</p> <p>24 Q So when Google releases a new version of 25 Android, why don't all the OEMs update to the newest</p> <p style="text-align: right;">Page 290</p>	<p>1 nutshell one of the reasons why they don't update. 2 I'll just add another reason, which is any 3 time you try to update software on phones, of 4 course, you want to make sure that you're improving 5 the software and not causing regressions in 6 functionality, and so manufacturers and also 7 operators spend a lot of time testing the software, 8 and that test cycle overhead is also another reason 9 why many manufacturers and operators don't want to 10 update devices. So it's a delicate balance.</p> <p>11 On the other hand, you know, a lot of 12 customers do want the latest, so they get a lot of 13 consumer demand for it, so it's a balancing act for 14 a lot of these manufacturers.</p> <p>15 BY MR. RAMSEY:</p> <p>16 Q So Google Play Services helps Google deal 17 with version fragmentation among different devices 18 running Android; is that true?</p> <p>19 A A tiny sliver of it. And what I mean by 20 "tiny sliver" is Google Play Services, as I've 21 explained earlier, is not the operating system. 22 It's on top of the operating system. So it's not 23 like through Google Play Services we can update the 24 actual operating system. So the operating system 25 is the operating system. It can't be updated</p> <p style="text-align: right;">Page 292</p>
<p>1 version of the Android operating system on their 2 devices?</p> <p>3 MS. ANDERSON: Beyond the scope.</p> <p>4 THE WITNESS: We would certainly love them 5 to. They -- they don't because they are not -- 6 that's not sort of the business that they've 7 historically been in. You know, when you look at 8 device manufacturers historically, before 9 smartphones, you know, if you bought a smartphone 10 or -- sorry -- a feature phone back in the '90s, for 11 example, you bought the phone and that was it. You 12 weren't going to get new software for the phone. It 13 was just kind of you bought it, and that's what it 14 was until you got a new phone.</p> <p>15 And that's the business model that these 16 manufacturers have been in. The notion of devices 17 updating themselves and improving over time, while I 18 think that everyone would agree is a great notion, 19 certainly I do, for these manufacturers, it's tough 20 because they're not staffed that way. Their 21 costs -- you know, it costs money for them to update 22 devices that they've already sold. And so from 23 their perspective, they look at this as cost adder 24 that many of them don't want to incur, which is kind 25 of the sad situation. So that's basically in a</p> <p style="text-align: right;">Page 291</p>	<p>1 unless the manufacturer does something about it. 2 But at least the portion that's included -- the 3 portions that are included in Google Play Services, 4 we can update.</p> <p>5 Q So when manufacturers of phones take 6 Android source code and make it their own, make 7 changes to it, do they contribute that back to the 8 open source community under any license, or do they 9 keep that as their competitive edge against other 10 phone makers?</p> <p>11 MS. ANDERSON: Objection; form, beyond the 12 scope.</p> <p>13 THE WITNESS: It's case-by-case. Some 14 manufacturers like to contribute things back more 15 than others. It's really a business and technical 16 decision on their part.</p> <p>17 BY MR. RAMSEY:</p> <p>18 Q Does Samsung contribute their changes to 19 Android? For example, do they post it on the Web 20 someplace for anybody to use and tinker with?</p> <p>21 MS. ANDERSON: Same objections.</p> <p>22 THE WITNESS: Two things: When 23 manufacturers contribute their code, they usually 24 contribute it to the Android Open Source Project, so 25 it's not just on some random website. It's, you</p> <p style="text-align: right;">Page 293</p>

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<p>1 know, by -- by definition, when they contribute it, 2 it becomes sort of a part of the Open Source Project 3 going forward. 4 Samsung has certainly done that in the 5 past, but it doesn't mean they've done it for all 6 their technology. 7 BY MR. RAMSEY: 8 Q Are you aware of specific instances where 9 any phone manufacturer held back some proprietary 10 changes to their versions of Android? 11 MS. ANDERSON: Same objections. 12 THE WITNESS: Sure. 13 BY MR. RAMSEY: 14 Q Can you give me just a couple of examples 15 to help me understand what that means? 16 MS. ANDERSON: Same objection. 17 THE WITNESS: Yeah. An example is 18 TouchWiz. TouchWiz is the name that Samsung gives 19 to their user interface on their phone, so when you 20 buy a Galaxy S6 or any Samsung phone, it looks 21 pretty different from other Android devices that the 22 user interface does. They've intentionally made the 23 user interface unique to Samsung. They've added new 24 functionality that's unique to Samsung. They're 25 trying to differentiate. They call that TouchWiz.</p> <p style="text-align: right;">Page 294</p>	<p>1 (Reporter clarification.) 2 THE WITNESS: Phablet, P-H-A-B-L-E-T. The 3 Samsung Note series of phablets comes with a stylus, 4 a little pen, that you can use to draw on the -- on 5 the phablet. 6 The Android operating system to date 7 doesn't have a notion of stylus or pen input. So 8 Samsung have created APIs to enable not only their 9 own apps but third-party apps to do something unique 10 with the pen. 11 That's an example. I don't know if 12 Samsung would call that a TouchWiz API, but I just 13 don't know what they call it, but I think 14 directionally that's kind of what you're asking 15 about. 16 BY MR. RAMSEY: 17 Q Okay. 18 So APIs such -- regardless of what they're 19 called that are developed, built into the Android 20 platform by the OEMs, the phone makers, do you 21 believe it's their intent not to allow other phone 22 makers to use those -- those developments for their 23 own purposes? So, for example, do you believe that 24 Samsung would allow its proprietary Android APIs to 25 be used by HTC?</p> <p style="text-align: right;">Page 296</p>
<p>1 They don't open source TouchWhiz because by 2 definition, that is what they're trying to 3 differentiate with. 4 BY MR. RAMSEY: 5 Q So does some OEM modification to Android, 6 such as Samsung's TouchWiz, come with its own APIs, 7 at least in some instances? 8 MS. ANDERSON: Beyond the scope. 9 Objection; form. 10 THE WITNESS: I want to be careful with 11 how I phrase this. I don't know if Samsung would 12 call their APIs TouchWiz APIs, but there are 13 certainly APIs that Samsung adds on top of Android 14 that are unique to Samsung. 15 BY MR. RAMSEY: 16 Q Do they hold, at least some of those, 17 proprietary, to your knowledge? 18 MS. ANDERSON: Same objections. 19 THE WITNESS: When you say "proprietary," 20 again, you know, by definition, an API, if you want 21 developers to use it, you have to publicize the API 22 or else there's no point. 23 So the API that I'm thinking about is 24 stylus, pen input. Note series, Samsung Note series 25 of phablets --</p> <p style="text-align: right;">Page 295</p>	<p>1 MS. ANDERSON: Objection; form, beyond the 2 scope. 3 THE WITNESS: I think it's case-by-case. 4 We've had cases actually where a manufacturer wants 5 to make APIs that they pioneered, wants to make 6 it -- if you will, upstream it to Android and make 7 it sort of a Android level -- Android-wide standard 8 because the benefit to them is they get a head 9 start. They develop these APIs, and they're very 10 familiar with it. Their device is already supported 11 so they get a head start relative to everyone else. 12 But at the same time, the benefit to them 13 is they get broader application developer support 14 for these APIs. Again, if you're an application 15 developer, you may look at an API and say, "Oh, this 16 only works on 50 percent of the devices out there." 17 You wouldn't be as interested in supporting them. 18 BY MR. RAMSEY: 19 Q So is it fair to say that the OEMs making 20 Android-based phones may make a business decision to 21 keep back some of their proprietary APIs or not? 22 MS. ANDERSON: Objection; form, beyond the 23 scope. 24 THE WITNESS: It is up to them whether 25 they want to create APIs that are publicly available</p> <p style="text-align: right;">Page 297</p>

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<p>1 or private to their company. It's totally up to 2 them.</p> <p>3 BY MR. RAMSEY:</p> <p>4 Q Okay.</p> <p>5 Does Google insist that OEMs who make 6 changes to Android in their phones, their versions 7 of Android, give that back to Google, or does Google 8 respect their business decisions?</p> <p>9 MS. ANDERSON: Same objections.</p> <p>10 THE WITNESS: We absolutely respect their 11 business decisions, and, you know, we're happy to 12 engage in conversations and give our advice. 13 Sometimes our advice -- you know, it's a 14 case-by-case thing. We might advise them to keep it 15 or we might advise them to open it up, and it's 16 really a case-by-case thing. In all scenarios, we 17 respect their decision.</p> <p>18 BY MR. RAMSEY:</p> <p>19 Q If an OEM phone maker made the 20 determination that it wanted to withhold certain 21 development APIs in Android as proprietary, would 22 Google respect that choice?</p> <p>23 MS. ANDERSON: Objection; form, beyond the 24 scope.</p> <p>25 THE WITNESS: I'm failing to think of a</p> <p style="text-align: right;">Page 298</p>	<p>1 Q What do you know about the Wallet 2 functionality in Google Play Services?</p> <p>3 A I think what I know is that there is a 4 functionality of it where an application developer 5 can in their app use the Wallet service to -- to 6 enable people, end users, to buy things.</p> <p>7 So an example might be you're a flower 8 shop and you're a florist, and you have developed 9 an application for your store. Someone has 10 downloaded your app, and now you want to 11 deliver -- have your flowers delivered. You can 12 use this button that is powered by Google Wallet 13 that enables people to buy things, buy, you know, 14 flowers basically, in this example, from you. So 15 physical goods as opposed to digital sort of 16 online goods.</p> <p>17 Q Is it your understanding that the Wallet 18 functionality you just described was originally 19 released as part of the Android Open Source Project 20 in 2009?</p> <p>21 A Say that again.</p> <p>22 Q Is it your understanding that the Wallet 23 functionality that you just described was originally 24 released as part of the Android Open Source Project 25 in 2009?</p> <p style="text-align: right;">Page 300</p>
<p>1 specific case, but if, hypothetically speaking, we 2 may not be happy, but we'll certainly respect it.</p> <p>3 BY MR. RAMSEY:</p> <p>4 Q So what other functionalities over time 5 have been added between -- to Google Play Services 6 between its release and present that you can think 7 of?</p> <p>8 A What other functionality has been added?</p> <p>9 Q Uh-huh.</p> <p>10 A I think at some point in the history of 11 Google Play Services we added the capability for 12 application developers, similar to the mapping 13 example, now show YouTube videos in their apps.</p> <p>14 Q So was that functionality enabling showing 15 of YouTube app -- YouTube videos in an app 16 originally part of the Android Open Source Project?</p> <p>17 A No. I mean, the YouTube app has always 18 been a separate app. So it was never -- to my 19 knowledge, it was never something that was part of 20 the Android Open Source Project.</p> <p>21 Q Okay.</p> <p>22 Are you aware of some functionality in 23 Google Play Services known as Wallet?</p> <p>24 A I know such a thing exists. The detail, 25 I'm a little hazy on.</p> <p style="text-align: right;">Page 299</p>	<p>1 A It is not my understanding, no.</p> <p>2 Q All right.</p> <p>3 Do you have any understanding about any 4 code that was released as part of the Android Open 5 Source Project that was later deprecated and instead 6 that functionality was moved into Google Play 7 Services?</p> <p>8 MS. ANDERSON: Objection; form.</p> <p>9 THE WITNESS: Any examples of that?</p> <p>10 BY MR. RAMSEY:</p> <p>11 Q Yes.</p> <p>12 A I know it's happened. I'm trying to 13 think of specific examples. I can't think of 14 specific examples right now, but I do know that 15 it's happened. And the reason why I know that is 16 because we review each of those cases, which is 17 pretty rare, each of those cases very carefully to 18 make sure that the reason why we're doing this is 19 sort of based on very sound sort of computer 20 science techniques and sound sort of business 21 decisions that make sense so that we're not taking 22 anything away from Android that should belong in 23 the Android operating system.</p> <p>24 Q Is it true that Google Play Services gives 25 Google more control over the Android platform, in</p> <p style="text-align: right;">Page 301</p>

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<p>1 general?</p> <p>2 MS. ANDERSON: Objection; form.</p> <p>3 THE WITNESS: I don't know if I would</p> <p>4 necessarily agree with that characterization because</p> <p>5 it's really up to the application developer to</p> <p>6 decide whether they want to use Google Play</p> <p>7 Services. No one is forcing Google Play Services on</p> <p>8 anyone.</p> <p>9 So to the extent that we are able to</p> <p>10 provide functionality that developers want, I think</p> <p>11 that's a win-win. We're helping developers be more</p> <p>12 efficient and create innovations of their own using</p> <p>13 our functionality, and -- and it's good for us too</p> <p>14 because it means we get more usage of our</p> <p>15 functionality. But I see that almost sort of</p> <p>16 orthogonal to Android. I mean, this is all sort of</p> <p>17 the baseline is Android, and whether you use Google</p> <p>18 services on top is really up to you.</p> <p>19 BY MR. RAMSEY:</p> <p>20 Q So you keep saying that -- that Android</p> <p>21 is -- is free and open. You did use those words or</p> <p>22 something similar, don't you agree?</p> <p>23 A I don't know if I've used exactly those</p> <p>24 words, but Android is certainly free and it is</p> <p>25 certainly open source.</p> <p style="text-align: right;">Page 302</p>	<p>1 scope, form.</p> <p>2 THE WITNESS: Feels self-referential, but</p> <p>3 Android is Apache. So by definition, yes, there was</p> <p>4 an effort to make -- didn't -- it didn't become</p> <p>5 Apache by accident, I don't think.</p> <p>6 BY MR. RAMSEY:</p> <p>7 Q So are you --</p> <p>8 Do you believe that everything that is --</p> <p>9 all the code that is contained within the Android</p> <p>10 platform, Google has the right to release under the</p> <p>11 Apache license?</p> <p>12 MS. ANDERSON: Beyond the scope, form.</p> <p>13 THE WITNESS: I believe that we have the</p> <p>14 appropriate mechanisms, processes and controls in</p> <p>15 place to make sure that the code base is reviewed</p> <p>16 appropriately and the right licenses are used. For</p> <p>17 instance, Linux kernel is GPL.</p> <p>18 BY MR. RAMSEY:</p> <p>19 Q And you're a very senior executive with</p> <p>20 respect to Android; is that true?</p> <p>21 A Certainly getting old, yes.</p> <p>22 Q Okay.</p> <p>23 And so in your role as a senior executive</p> <p>24 relating to Android, if you found that Android</p> <p>25 contained material that was not appropriate to be</p> <p style="text-align: right;">Page 304</p>
<p>1 Q Are you aware of any effort to make sure</p> <p>2 that Google has the right to release everything</p> <p>3 within Android under an Apache open source license?</p> <p>4 MS. ANDERSON: Objection; form and beyond</p> <p>5 the scope.</p> <p>6 THE WITNESS: Within an Apache open source</p> <p>7 license. A lot of Android is already released under</p> <p>8 Apache open source, as your colleague pointed out.</p> <p>9 It's not like we can change the Linux kernel's</p> <p>10 license from GPL to Apache, so that's not -- I don't</p> <p>11 think that's something we're contemplating at all.</p> <p>12 So I guess I'm failing to understand your question.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q Well, so are you aware of any effort to</p> <p>15 make sure that Google had the right to release what</p> <p>16 it did purport to release under the Apache license</p> <p>17 under that particular license?</p> <p>18 MS. ANDERSON: Objection; beyond the</p> <p>19 scope, form.</p> <p>20 THE WITNESS: Sorry, any effort at Google</p> <p>21 to make sure Android, which is Apache, can be</p> <p>22 released under Apache?</p> <p>23 BY MR. RAMSEY:</p> <p>24 Q Correct.</p> <p>25 MS. ANDERSON: Objection; beyond the</p> <p style="text-align: right;">Page 303</p>	<p>1 licensed under Apache, do you believe that Google</p> <p>2 would do the right thing and remove it?</p> <p>3 MS. ANDERSON: Beyond the scope, form.</p> <p>4 THE WITNESS: I've been at Google nine and</p> <p>5 a half, almost 10 years now, and one of the things</p> <p>6 that I really like about Google is that as a</p> <p>7 company, we always try to do the right thing. So if</p> <p>8 there was ever a case where we believed we were</p> <p>9 doing the wrong thing, I'm sure we would do our best</p> <p>10 to rectify it.</p> <p>11 BY MR. RAMSEY:</p> <p>12 Q But, I mean, if there were code that were</p> <p>13 not -- within Android that were not allowed to be</p> <p>14 licensed under the Apache license specifically, do</p> <p>15 you believe that as a senior executive relating to</p> <p>16 Android, that it would be the right thing to simply</p> <p>17 remove it?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: To simply remove it. I</p> <p>21 don't know what the right remedy would be. Your</p> <p>22 question was removing it entirely. I don't know if</p> <p>23 that would be the right remedy or not. I think it's</p> <p>24 a case-by-case thing. Hard for me to say sort of in</p> <p>25 abstract in general terms.</p> <p style="text-align: right;">Page 305</p>

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<p>1 MS. ANDERSON: Whenever it's good for you,</p> <p>2 Counsel, I think we have about hour six. Is that</p> <p>3 right? I think the witness has been going for a</p> <p>4 couple of hours.</p> <p>5 MR. RAMSEY: You want to take a break? As</p> <p>6 you requested earlier, let's keep it quick just so</p> <p>7 that we get our time in.</p> <p>8 MS. ANDERSON: Are we at about six hours?</p> <p>9 THE VIDEOGRAPHER: Six hours and three</p> <p>10 minutes on the record.</p> <p>11 MS. ANDERSON: Thank you.</p> <p>12 THE VIDEOGRAPHER: We are off the record</p> <p>13 at 5:04 p.m.</p> <p>14 (Recess taken.)</p> <p>15 THE VIDEOGRAPHER: We are back on the</p> <p>16 record at 5:10 p.m.</p> <p>17 BY MR. RAMSEY:</p> <p>18 Q We spoke a while ago about a Keyboard</p> <p>19 implementation that was in the Android Open Source</p> <p>20 Project; that there was subsequently a new version</p> <p>21 of the Keyboard application created in Google Play</p> <p>22 Services, right?</p> <p>23 Do you remember that?</p> <p>24 A I remember the conversation, yes.</p> <p>25 Q Okay.</p> <p style="text-align: right;">Page 306</p>	<p>1 to end users, as we discussed, has more</p> <p>2 functionality, but also it's updatable, right,</p> <p>3 because it's just like an application that comes</p> <p>4 from Google Play. Whenever the Google Keyboard team</p> <p>5 comes up with new innovations or bug fixes, they can</p> <p>6 make it available on Google Play, and devices will</p> <p>7 update with a new keyboard, whereas the one that was</p> <p>8 built in before that was part of open source really</p> <p>9 depends on the manufacturer to update, and -- and as</p> <p>10 we discussed, that -- that is something that happens</p> <p>11 very slowly.</p> <p>12 BY MR. RAMSEY:</p> <p>13 Q So there have been reports that Google is</p> <p>14 moving functionality out of other parts of Android</p> <p>15 into Google Play Services; is that true?</p> <p>16 A I think you asked me this question</p> <p>17 before. I'm only clarifying to make sure I'm</p> <p>18 understanding your question correctly. Is this the</p> <p>19 same question you asked me before?</p> <p>20 Q Yeah. I think so.</p> <p>21 A Okay. So the answer is still the same.</p> <p>22 I don't generally agree with the assertion that</p> <p>23 we're moving more things out of open source into</p> <p>24 Google Play Services. As I mentioned earlier, we</p> <p>25 continue to add new functionalities and new APIs to</p> <p style="text-align: right;">Page 308</p>
<p>1 So with respect to the new version of the</p> <p>2 Keyboard functionality that's enabled through Google</p> <p>3 Play Services, will it run -- is it backward</p> <p>4 compatible? Will it run on every prior version of</p> <p>5 Android or not?</p> <p>6 A No, sorry, just one clarification. One</p> <p>7 clarification. The Keyboard, the Google Keyboard,</p> <p>8 is not really tied to Google Play Services. It's</p> <p>9 just a keyboard that Google provides through Google</p> <p>10 Play, Google Play being -- in this context, when I</p> <p>11 say "Google Play," I mean the app store. So people</p> <p>12 can go to the Google Play app store and download</p> <p>13 the Google Keyboard. Doesn't mean that it's built</p> <p>14 into Google Play Services, which is a separate</p> <p>15 thing from the app store.</p> <p>16 Q All right.</p> <p>17 So -- well, same question. Is it true</p> <p>18 that there used to be an open source version of the</p> <p>19 Google Keyboard that was maintained and that was now</p> <p>20 moved to a proprietary application?</p> <p>21 MS. ANDERSON: Objection; form.</p> <p>22 THE WITNESS: Right. The -- I don't know</p> <p>23 if the open source implementation is no longer</p> <p>24 maintained. What I do know is that there is now a</p> <p>25 Google Keyboard. The benefit of the Google Keyboard</p> <p style="text-align: right;">Page 307</p>	<p>1 both, to the open source Android but also to Google</p> <p>2 Play Services as well.</p> <p>3 And whenever we make API decisions in</p> <p>4 terms of where the API should go, we do it based</p> <p>5 on sound computer science sort of methodologies to</p> <p>6 decide, you know, what layer of the technology</p> <p>7 stack do these APIs belong in and put it in the</p> <p>8 right place.</p> <p>9 Q So list for me the -- the key APIs</p> <p>10 embodied within Google Play Services and not</p> <p>11 elsewhere.</p> <p>12 A I don't know if these are key APIs, but</p> <p>13 I'll give you examples of APIs. The two examples</p> <p>14 that I've given so far include Maps; MapView, I</p> <p>15 think, is technically what it's called, in Google</p> <p>16 Play Services. It's an API that enables</p> <p>17 application developers to draw maps within their</p> <p>18 own apps without taking the user outside of their</p> <p>19 app.</p> <p>20 Another example that I gave earlier is</p> <p>21 YouTube View; I think that's what it's called,</p> <p>22 similar to the MapView example. YouTube View</p> <p>23 enables applications to render YouTube videos</p> <p>24 within their app without the user having to leave</p> <p>25 their app and go into the YouTube app.</p> <p style="text-align: right;">Page 309</p>

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<p>1 Q Any other functionalities, other than 2 MapView and YouTube View within Google Play 3 Services?</p> <p>4 A Well, those are two examples of -- of 5 APIs. An example of functionality, since that's -- 6 that's what you just asked about, examples of 7 functionality, one example is security services. I 8 believe we call it SafetyNet -- I believe that's 9 the public name for it -- which is a way for code 10 that's running in Google Play Services to, with the 11 user's consent, scan their device every so often to 12 make sure there's no malware or viruses on the 13 device.</p> <p>14 Q Was the MapView API ever a part of the 15 Android platform elsewhere?</p> <p>16 A I don't believe so, no.</p> <p>17 Q Was the YouTube View API ever a part of 18 the Android platform, outside of Google Play 19 Services?</p> <p>20 A I don't believe so, no.</p> <p>21 Q How about the security functionality 22 within Google Play Services; was that ever part of 23 the Android platform, outside of Google Play 24 Services?</p> <p>25 A Similar to -- I don't believe so, no.</p> <p style="text-align: right;">Page 310</p>	<p>1 and -- and sort of have very thought-through, cogent 2 sort of reasons for doing so if we need to do that. 3 And, again, it goes back to sort of the computer 4 science principles around having the appropriate 5 layering and putting generic operating system 6 functionality into AOSP, the Android Open Source 7 Project, and putting Google's specific functionality 8 into Google Play Services much like Facebook builds 9 their app and has their functionality in their app, 10 and it's not in Android open source.</p> <p>11 BY MR. RAMSEY:</p> <p>12 Q What do you mean by "Google specific 13 functionality in Google Play Services"?</p> <p>14 A What I mean by "Google specific 15 functionality," it's a good -- good point. What I 16 mean by that is functionality that is powered by 17 Google servers. So, for instance, MapView, you 18 know, the map information comes from a server 19 that's hosted by Google as opposed to something 20 that belongs in the operating system like how to 21 draw a button, you know; that has nothing to do 22 with Google or Google servers, so that's why that's 23 in the base operating system.</p> <p>24 Q So how do you make decisions about what 25 stays within the Android operating system in -- in</p> <p style="text-align: right;">Page 312</p>
<p>1 It's a similar concept to MapView and YouTube View 2 where these functionalities depend on servers 3 powered by Google. The security system also 4 depends on -- heavily depends on servers and 5 infrastructure powered by Google, so that's why 6 it's in Google Play Services and not the Android 7 open source platform.</p> <p>8 Q Have you been involved in any 9 conversations internally at Google about moving 10 functionality from other parts of Android into 11 Google Play Services?</p> <p>12 MS. ANDERSON: Objection; form.</p> <p>13 THE WITNESS: Have I been involved in 14 conversations at Google where the topic of moving 15 functionality from one place to another has been 16 discussed?</p> <p>17 BY MR. RAMSEY:</p> <p>18 Q In particular, from Android, the Android 19 stack -- other places in the Android stack to Google 20 Play Services.</p> <p>21 MS. ANDERSON: Beyond the scope.</p> <p>22 THE WITNESS: I think I have been. It's 23 been so long that I don't remember the details of 24 it. But I know it's been a topic -- it's something 25 that we consider very carefully and think through</p> <p style="text-align: right;">Page 311</p>	<p>1 layers of the stack, other than Google Play Services 2 as opposed to what functionality gets put within 3 Google Play Services?</p> <p>4 MS. ANDERSON: Objection; form, beyond the 5 scope.</p> <p>6 THE WITNESS: Just try to make sure I 7 understand. You're -- you're asking how do we -- if 8 it doesn't belong in Google Play Services, how do we 9 determine where to put it?</p> <p>10 BY MR. RAMSEY:</p> <p>11 Q I'm trying to determine how does Google 12 decide what portions of functionality remains in 13 stacks of the Android platform, other than Google 14 Play Services, and how does Google determine what 15 pieces of functionality should, in fact, go within 16 Google Play Services?</p> <p>17 MS. ANDERSON: Same objections.</p> <p>18 THE WITNESS: Well, there aren't that many 19 options. I'm thinking through what are the options 20 that -- that we have when we decide where a 21 functionality goes. So let me try to enumerate the 22 options.</p> <p>23 One option is it's an operating system 24 thing and it goes in Android. Another option is 25 it's an API or sort of a functionality that is -- is</p> <p style="text-align: right;">Page 313</p>

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<p>1 sort of a service for the device similar to the 2 security example I gave that is somehow related to 3 Google servers. So that would be Google Play 4 Services.</p> <p>5 The third option is it's just an 6 application. You know, that's what we've done with 7 YouTube or Maps or Google Translate. These are 8 applications that people can download and load onto 9 their devices or Gmail. Those are on the device -- 10 I think those are basically it. Those are the three 11 possibilities of where we could decide to put 12 functionality.</p> <p>13 Now, there's obviously another 14 consideration, which is, well, is this 15 functionality, for instance, better served on the 16 Web? In which case we would put it on a server 17 somewhere and make it accessible through a Web 18 browser.</p> <p>19 It could also be a Web-based API that we 20 make available. So there's a number of service-side 21 options as well, but I think that's an enumeration 22 of options that we have to work with.</p> <p>23 And so to answer your question on a 24 case-by-case basis, we look at the technology or the 25 functionality or the API in question and make a</p> <p style="text-align: right;">Page 314</p>	<p>1 Was the e-mail application that the OEMs 2 created integrated within the Android operating 3 system?</p> <p>4 A No. These are applications, so they're 5 not integrated in the OS. They're applications 6 just like the Facebook application that is not 7 integrated OS.</p> <p>8 Q All right.</p> <p>9 I'm talking about functionality that is 10 part of the Android operating system stack.</p> <p>11 Have OEMs ever expressed opinions about 12 what functionality should be within that stack as 13 opposed to other places, such as Google Play 14 Services?</p> <p>15 MS. ANDERSON: Beyond the scope.</p> <p>16 THE WITNESS: Not that I'm aware of.</p> <p>17 BY MR. RAMSEY:</p> <p>18 Q Are you aware of any conversations at 19 Google about removing functionality from the Android 20 stack and putting it elsewhere, in general?</p> <p>21 MS. ANDERSON: Same objections.</p> <p>22 THE WITNESS: I'm trying -- again, I'm 23 trying to differentiate this question from a 24 previous one that you've asked me. Are you asking 25 me the same question? I'm happy to answer it again.</p> <p style="text-align: right;">Page 316</p>
<p>1 determination where is the best place to put it.</p> <p>2 BY MR. RAMSEY:</p> <p>3 Q Have any of the OEMs that you deal with 4 ever expressed views about functionality remaining 5 within the Android stack as opposed to something 6 like Google Play Services?</p> <p>7 MS. ANDERSON: Objection; beyond the 8 scope.</p> <p>9 THE WITNESS: Remaining in the Android OS 10 as opposed to something like Google Play Services, 11 not to my knowledge.</p> <p>12 The interesting observation, at least 13 interesting to me observation, is many OEMs end up 14 implementing their own stuff anyway. So, for 15 instance, I'll give two opposing examples.</p> <p>16 Many OEMs -- even though we had a open 17 sourced e-mail application, many OEMs ended up 18 implementing their own e-mail app anyway because 19 they wanted to differentiate, and they felt like 20 e-mail was an important way to differentiate their 21 devices, so they did their own implementation. So 22 they didn't really care about what we were 23 providing.</p> <p>24 BY MR. RAMSEY:</p> <p>25 Q Let me just stop you there.</p> <p style="text-align: right;">Page 315</p>	<p>1 BY MR. RAMSEY:</p> <p>2 Q No. I think it's a different question.</p> <p>3 So I just want to know, are you aware, in 4 general, of any conversations at Google about 5 removing functionality from the Android stack and 6 putting it elsewhere?</p> <p>7 A I think -- I think it's the same question 8 you asked me a few questions ago where my answer 9 was, I'm sure conversations like that have 10 happened. I don't remember a specific one at the 11 moment, but every time those conversations 12 happened, it's -- you know, we take into 13 consideration what is the technically appropriate 14 thing to do to make sure that we're following sort 15 of sound computer science principles.</p> <p>16 Q You mentioned that there are a number of 17 different APIs that Google continued to add to 18 Android.</p> <p>19 Do you recall that?</p> <p>20 A Is this when I was talking about the 21 3,000 new APIs in L?</p> <p>22 Q Correct.</p> <p>23 A I do remember that.</p> <p>24 Q All right.</p> <p>25 In general, are you aware that Google</p> <p style="text-align: right;">Page 317</p>

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<p>1 continues to add material to Android as opposed to 2 remove it from Android?</p> <p>3 MS. ANDERSON: Beyond the scope.</p> <p>4 THE WITNESS: When you say "material" now, 5 I'm just trying to disambiguate. You're not 6 speaking about material design. You're talking 7 about material as in things?</p> <p>8 BY MR. RAMSEY:</p> <p>9 Q Let me reask it.</p> <p>10 In general, are you aware that Google 11 continues to add code and functionality to the 12 Android stack as opposed to remove code and material 13 from the Android stack?</p> <p>14 MS. ANDERSON: Objection; form, beyond the 15 scope.</p> <p>16 THE WITNESS: There are -- there are cases 17 where we do -- what's the word I'm looking for? 18 There's a specific -- "deprecate," where we do 19 deprecate certain APIs; that is a form of removal or 20 at least making it so that new developers can't use 21 these APIs anymore. Sometimes that does happen. 22 But sort of net-net, you know. If you were to 23 compare how many new APIs were added versus how many 24 were -- were deprecated -- I'm making this number 25 up, but approximately, it's probably a thousand to</p> <p style="text-align: right;">Page 318</p>	<p>1 for customers, it would be bad for the ecosystem.</p> <p>2 BY MR. RAMSEY:</p> <p>3 Q Why would it be bad for app developers to 4 have to rewrite their applications for every new 5 release of Android?</p> <p>6 MS. ANDERSON: Same objections.</p> <p>7 THE WITNESS: Sorry, you didn't even let 8 me finish my question [sic], so now I've lost my 9 train of thought. Which question did you want me to 10 answer?</p> <p>11 BY MR. RAMSEY:</p> <p>12 Q Well, I just want to know why you just 13 mentioned that you thought it would be a bad thing 14 if application developers had to change their 15 application of every release of Android. Why would 16 that be bad?</p> <p>17 MS. ANDERSON: Beyond the scope.</p> <p>18 THE WITNESS: Well, as a general theme, 19 you know, it's kind of like doing the same work over 20 again. Why would anyone want to do that, right? 21 Like, if -- if -- if -- there's no point shoveling 22 snow if it's still snowing out there; you're going 23 to have to shovel it again. That -- that -- maybe 24 that's not the best analogy, but as an app 25 developer, you have limited resources, you have</p> <p style="text-align: right;">Page 320</p>
<p>1 one or something like that. You know, many more 2 APIs are added than they are deprecated.</p> <p>3 And when we do deprecate APIs, it's 4 usually for a very technical reason; maybe the API 5 just wasn't working the way we intended it to. 6 Maybe it was causing bad battery life on devices 7 because the API was structured in a way that caused 8 developers to do certain things that would chew 9 through your battery, and so we said, "This is not 10 good for the customer," so, you know, we would work 11 with our developer relations team to reach out to 12 developers and explain the situation and all of 13 that. So it's always a carefully considered option.</p> <p>14 BY MR. RAMSEY:</p> <p>15 Q So is it fair to say that the presence or 16 absence of APIs in Android changes over time and 17 across versions?</p> <p>18 MS. ANDERSON: Objection; form, beyond the 19 scope.</p> <p>20 THE WITNESS: Yeah. The API set -- I just 21 want to make sure I'm painting an accurate picture. 22 Fundamentally -- and it's not like every release of 23 Android requires an app developer to completely 24 rewrite their application. That would certainly be 25 very inefficient for app developers, it would be bad</p> <p style="text-align: right;">Page 319</p>	<p>1 limited time. You're competing with a lot of app 2 developers, and you want to make sure that the 3 engineering effort you're putting in is -- is used 4 wisely.</p> <p>5 And if Android requires you to rewrite 6 your application from scratch every time, that would 7 be very inefficient for an app developer, and they 8 wouldn't be making any progress. New innovations 9 wouldn't be happening because they'd be focusing on 10 rewriting their app over and over again.</p> <p>11 So from that perspective, ensuring some 12 semblance of -- of cohesion, consistency across 13 versions, and consistency is very important, 14 stability is very important, API stability is very 15 important.</p> <p>16 So I don't have an exact statistic for 17 you, but I would say the vast majority of APIs in 18 Android remain unchanged over various versions of 19 Android. But over time we certainly add APIs, which 20 doesn't obviously require you to rewrite your app 21 because the fact that there are new APIs that you're 22 not using doesn't cause your old APIs to not work 23 anymore; just means you're not taking advantage of 24 the latest and greatest functionalities. But that's 25 generally how it works.</p> <p style="text-align: right;">Page 321</p>

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<p>1 Now, deprecating APIs certainly gets a 2 little bit tricky, and that's why it's a very 3 carefully considered, last resort-type of option. 4 BY MR. RAMSEY: 5 Q When Google makes changes to the Android 6 APIs, does it coordinate with Oracle, to your 7 understanding, or not? 8 MS. ANDERSON: Objection; form, beyond the 9 scope. 10 THE WITNESS: I don't know. 11 BY MR. RAMSEY: 12 Q But you have no awareness affirmatively 13 that Google is reaching out to Oracle to make sure 14 that Oracle is coordinated with Google about changes 15 to Android APIs? 16 MS. ANDERSON: Objection; form, beyond the 17 scope. 18 THE WITNESS: I am not aware of any effort 19 of communications between Oracle and Google, aside 20 from lawsuits. 21 BY MR. RAMSEY: 22 Q Okay. 23 Are you aware of any APIs that were 24 formerly part of the Android stack that have been 25 moved to Google Play Services from the rest of the</p> <p style="text-align: right;">Page 322</p>	<p>1 but doesn't mean that it hasn't happened. Doesn't 2 mean anything in particular, because I'm -- I'm not 3 coding, myself, anymore. 4 BY MR. RAMSEY: 5 Q Who would best know the answer to that 6 question of whether APIs were moved from the rest of 7 the Android stack into Google Play Services? 8 MS. ANDERSON: Objection; form, beyond the 9 scope. 10 THE WITNESS: I think the specifics would 11 depend on who the owner of the API was, if such a 12 thing happened. I don't know if it's happened, so 13 it's hard for me to tell you who to point you to. 14 I will tell you, though, that, in general, 15 as I've mentioned before, this is not something we 16 are striving to do. 17 Our goal is to have a very stable API set, 18 and the only time when APIs are moved is when we 19 believe it makes sense from separating out sort of 20 Google-specific functionality from sort the generic 21 operating system that is Android. 22 BY MR. RAMSEY: 23 Q I think you testified earlier that Google 24 Play Services is part of Google's anti-fragmentation 25 strategy?</p> <p style="text-align: right;">Page 324</p>
<p>1 Android stack? 2 A Sorry, ask me that again. 3 Q Are you aware of any APIs that were 4 formerly part of the Android stack that have been 5 moved to Google Play Services from the rest of the 6 Android stack? 7 MS. ANDERSON: Objection; form. 8 THE WITNESS: I just want to clarify. I 9 want to make sure I'm answering the right question 10 for you. I think you've answered -- asked this 11 question of me before. It's the same question, 12 right? 13 BY MR. RAMSEY: 14 Q I'm now specifically asking about APIs, 15 not functionality, in general. 16 A Okay. 17 Q So let me reask my question, so it's -- 18 A Yeah, I just want to make sure I'm 19 answering your questions appropriately. 20 Q Are you aware of any APIs that were 21 formerly part of the Android stack that have been 22 moved to Google Play Services out of the rest of the 23 Android stack? 24 MS. ANDERSON: Objection; form. 25 THE WITNESS: I'm personally not familiar,</p> <p style="text-align: right;">Page 323</p>	<p>1 MS. ANDERSON: Objection; form. 2 THE WITNESS: I'm pretty sure I did not 3 use that phrasing. What I mentioned was there is, 4 in terms of version fragmentation, which -- which 5 refers to there being multiple different versions of 6 Android out there and functionalities not being 7 updated in the field, in terms of that definition of 8 fragmentation, Google Play Services can help, you 9 know, in a sliver, a tiny, little sliver of that 10 problem by at least making it possible for us to 11 update functionalities that we're providing as part 12 of Google Play Services. Vast subset of Android 13 overall, but it's a -- it's a small sliver, as I 14 mentioned. 15 BY MR. RAMSEY: 16 Q Are you aware of application and 17 functionality such as Gmail being bundled with 18 Android at some point in the past? 19 A Am I familiar with Gmail being bundled 20 with Android? I've -- I've -- 21 MS. ANDERSON: I just want to caution, 22 just to interject an objection to beyond the scope 23 and form. 24 You may answer now. 25 THE WITNESS: I've heard that phrase. I'm</p> <p style="text-align: right;">Page 325</p>

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<p>1 not exactly sure what it refers to, so maybe you can 2 be a little more specific. 3 BY MR. RAMSEY: 4 Q Well, what's your understanding of 5 bundling functionality such as Gmail with Android? 6 MS. ANDERSON: Objection; form, beyond the 7 scope. 8 THE WITNESS: What is my understanding? I 9 don't have an understanding. I'm just saying I've 10 heard people say it, and I don't actually know what 11 they mean, which is why I'm asking you what -- what 12 you mean by it. 13 BY MR. RAMSEY: 14 Q Okay. 15 So was Gmail ever part of the Android 16 stack? 17 MS. ANDERSON: Objection; form, beyond the 18 scope. 19 THE WITNESS: Was Gmail, the 20 application -- you're talking about the Gmail 21 service where you get your e-mail? 22 BY MR. RAMSEY: 23 Q Uh-huh. 24 A Was that a part of the Android operating 25 system?</p> <p style="text-align: right;">Page 326</p>	<p>1 I think was your question, is not a part of the 2 Android platform or operating system. 3 BY MR. RAMSEY: 4 Q Is Google Talk or Hangouts, have those 5 ever been part of the Android platform? 6 MS. ANDERSON: Beyond the scope. 7 Objection; form. 8 THE WITNESS: No. Google Talk or Hangouts 9 has not been a part of the Android platform. It's 10 an application -- applications for Android that run 11 on Android, but they're not included in the Android 12 operating system or platform. 13 BY MR. RAMSEY: 14 Q Has Google Chrome ever been part of the 15 Android platform? 16 MS. ANDERSON: Same objections. 17 THE WITNESS: The Chrome browser has not 18 been a part of the Android platform. It's a 19 separate application, an application that runs on 20 top of Android, but it's not built into the OS. 21 BY MR. RAMSEY: 22 Q Okay. 23 Has the YouTube functionality ever been 24 part of the Android platform? 25 MS. ANDERSON: Same objections.</p> <p style="text-align: right;">Page 328</p>
<p>1 Q Yes. Just in general, is that -- was it 2 ever part of the Android operating system? 3 MS. ANDERSON: Objection; form, beyond the 4 scope. 5 THE WITNESS: No. The Gmail application 6 has always been an application on top of Android. 7 Just because something is written for Android 8 doesn't mean that it's a part of Android. 9 BY MR. RAMSEY: 10 Q Was -- was the Gmail functionality ever 11 part of the Android platform in any way? 12 MS. ANDERSON: Same objections. 13 THE WITNESS: Not that I'm aware of. I 14 believe the Gmail application has always been a 15 stand-alone application that you can download and 16 update independent of the operating system. 17 BY MR. RAMSEY: 18 Q Has Google Search functionality ever been 19 part of the Android platform? 20 MS. ANDERSON: Same objections. 21 THE WITNESS: From the Android operating 22 system or platform perspective, it doesn't; as I've 23 mentioned before, the operating system is a generic 24 one. It doesn't know anything about any particular 25 company, so, no, it is not a part of Google Search,</p> <p style="text-align: right;">Page 327</p>	<p>1 THE WITNESS: The YouTube application is a 2 separate application that runs on Android, but it 3 has not been built into the Android operating 4 system. 5 BY MR. RAMSEY: 6 Q So over time, has there -- have -- has -- 7 has Google moved functionality into Google Play 8 Services in order to -- in order to exert more 9 control over the Android platform itself? 10 MS. ANDERSON: Objection; form. 11 THE WITNESS: Again, I need to clarify 12 with you if I'm answering a new question or the same 13 question as before. It sounds a lot like a question 14 you've asked me about three times before. I'm happy 15 to answer it again, but I just want to make sure 16 that I'm understanding your question correctly. If 17 you could repeat your question. 18 BY MR. RAMSEY: 19 Q So over time, has Google moved 20 functionality into Google Play Services in order to 21 exert more control over the Android platform? 22 MS. ANDERSON: Objection; form, beyond the 23 scope. 24 THE WITNESS: I wouldn't characterize it 25 that way. I think when we make decisions on what</p> <p style="text-align: right;">Page 329</p>

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<p>1 functionality goes where, we take a very disciplined 2 view on sort of computer science principles, and -- 3 and really our -- our -- the basis of our thinking 4 is that Android is an operating system that's 5 generic. It doesn't know anything about a 6 particular company, Google included. And so it's a 7 base operating system that's generic. When there 8 are functionalities or APIs that are specific to 9 Google or provided specifically by Google Services, 10 or servers, then we typically make the determination 11 to move that or create that functionality in Google 12 Play Services. 13 BY MR. RAMSEY: 14 Q Have any phone manufacturers ever 15 expressed resistance to Google Play Services? 16 MS. ANDERSON: Objection; form. 17 THE WITNESS: Not that I'm familiar with, 18 no. 19 BY MR. RAMSEY: 20 Q Have you ever heard phone manufacturers 21 ever say anything negative about Google Play 22 Services? 23 MS. ANDERSON: Objection; form, beyond the 24 scope. 25 THE WITNESS: Not that I'm familiar with.</p> <p style="text-align: right;">Page 330</p>	<p>1 scope. 2 THE WITNESS: You know, it really depends. 3 You know, certainly if -- if a customer is -- and by 4 "customer" now, I'm referring to an end user. If 5 they are using Gmail, we certainly prefer that they 6 use the Gmail application because that's what that 7 application was built for. 8 But, for instance, there are areas in 9 which our e-mail application was lacking 10 historically in terms of support for certain 11 enterprise use cases, and in those cases, many of 12 the OEM-based mail applications were -- were much 13 better, and -- and we've received that feedback not 14 only from the OEMs but also operators, so it really 15 is case-by-case and -- and who the target audience 16 is and what the functionality it is that we're 17 talking about. 18 BY MR. RAMSEY: 19 Q Do you have an understanding of how Google 20 Play Services relates to the core libraries in the 21 Android runtime? 22 MS. ANDERSON: Objection; form. 23 THE WITNESS: When you say "core libraries 24 in the Android runtime," what are you referring to? 25</p> <p style="text-align: right;">Page 332</p>
<p>1 If anything, there are many phone manufacturers who 2 write applications of their own that take advantage 3 of Google Play Services. So I haven't heard any 4 objections, and if anything, I've seen adoption of 5 Google Play Services from their application teams. 6 BY MR. RAMSEY: 7 Q How does -- when manufacturers create 8 their own applications, such as mail -- 9 You mentioned mail, correct? 10 A Correct. 11 Q Is there any way that Google monetizes 12 that act? 13 MS. ANDERSON: Objection; form, beyond the 14 scope. 15 THE WITNESS: Not that I'm aware of, no. 16 We don't charge OEMs or anyone to create their 17 applications for Android. If anything, we want them 18 to be able to make money off of creating 19 applications. 20 BY MR. RAMSEY: 21 Q Are there commercial reasons why Google 22 would prefer to -- that OEMs use Google's own e-mail 23 application as opposed to -- just for example, as 24 opposed to writing their own? 25 MS. ANDERSON: Objection; form, beyond the</p> <p style="text-align: right;">Page 331</p>	<p>1 BY MR. RAMSEY: 2 Q So do you recognize the term "core 3 libraries"? 4 A I -- we had a conversation -- your 5 colleague and I had a conversation about this 6 before. The term "core libraries" is used pretty 7 liberally in various slide decks and documents, and 8 it really depends -- the meaning of it or what it 9 refers to really depends on who you're talking to, 10 so in order for me to answer your question very 11 accurately, I would love to understand what -- what 12 your definition is. 13 Q All right. 14 So I'm talking about the libraries within 15 the Android platform that contain packages such as 16 java.util, U-T-I-L, or java.io or java.nio. 17 MS. ANDERSON: Objection; form. 18 BY MR. RAMSEY: 19 Q Do you understand what I'm describing when 20 I give you those examples of the core libraries? 21 MS. ANDERSON: Objection; form, beyond the 22 scope. 23 THE WITNESS: I think I do. I'm glad I 24 clarified, though, because I was thinking about 25 something completely different.</p> <p style="text-align: right;">Page 333</p>

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<p>1 BY MR. RAMSEY: 2 Q All right. 3 So do you understand how Google Play 4 Services relates to core libraries such as those I 5 just mentioned in the Android runtime? 6 A Sorry. 7 MS. ANDERSON: Sorry. Objection; form. 8 THE WITNESS: If you could answer -- ask 9 that question again. 10 BY MR. RAMSEY: 11 Q So do you understand how Google Play 12 Services relates to the core libraries within the 13 Android runtime? 14 MS. ANDERSON: Objection; form. 15 THE WITNESS: How Google Play services 16 relates to java.util. That's what you're asking? 17 BY MR. RAMSEY: 18 Q For example, sure. 19 A I don't even know how to parse that 20 question. I don't know. 21 Q So has Google used any of the core 22 libraries in the process of creating Google Play 23 Services? 24 MS. ANDERSON: Objection; form. 25 THE WITNESS: If you're asking, for</p> <p style="text-align: right;">Page 334</p>	<p>1 that came to my mind is Jeff Hamilton. 2 BY MR. RAMSEY: 3 Q Okay. 4 Do you have any technical understanding 5 about the way Google Play Services, for example, 6 relates to the core libraries in Android? 7 MS. ANDERSON: Objection; form. 8 THE WITNESS: Again, when you say "core 9 libraries," you're -- you're, for example, talking 10 about java.util. I don't know how or if they relate 11 to each other. 12 BY MR. RAMSEY: 13 Q All right. 14 So you didn't do anything to prepare for 15 the conversation today to prepare -- 16 You didn't do anything to prepare yourself 17 about how Google Play Services relates to the Java 18 packages at issue in this case? 19 MS. ANDERSON: Objection; form. 20 THE WITNESS: Well, what I -- what I did 21 to prepare for today was just, you know, my nine and 22 a half years working on Android and a number of 23 years working on Google Play Services. That's -- 24 that's the knowledge I'm bringing to the table 25 today.</p> <p style="text-align: right;">Page 336</p>
<p>1 example, have -- has the Google Play Services team 2 used java.util in the creation of Google Play 3 Services, I don't know. 4 BY MR. RAMSEY: 5 Q Okay. 6 Who would -- who's responsible for the 7 actual creation of Google Play Services technically? 8 MS. ANDERSON: Objection; form. 9 THE WITNESS: Well, it's a pretty big 10 team, and it's spread out across many groups within 11 Google, so it's hard for me to pinpoint exactly who 12 to ask. But there are a number of people that I 13 would start with. 14 BY MR. RAMSEY: 15 Q So if I wanted to ask somebody technical 16 questions about how Google Play Services relates to 17 the rest of Android, who is the person I would be 18 asking questions of? 19 MS. ANDERSON: Objection; form. 20 THE WITNESS: Probably an engineer or an 21 engineering lead on the Google Play Services team. 22 BY MR. RAMSEY: 23 Q And their name is? 24 MS. ANDERSON: Objection; form. 25 THE WITNESS: Their name -- the person</p> <p style="text-align: right;">Page 335</p>	<p>1 BY MR. RAMSEY: 2 Q Okay. 3 But you didn't do anything beyond that to 4 prepare yourself about the technical aspects of how 5 Google Play Services relates to the packages, the 6 Java packages? 7 MS. ANDERSON: Objection; form. 8 THE WITNESS: Beyond the nine and a half 9 years of work on this, no, I haven't done anything 10 else. 11 BY MR. RAMSEY: 12 Q Sitting here today, you're not able to 13 tell me technically how Google Play Services relates 14 to the Java packages at issue in this case? 15 MS. ANDERSON: Objection; form. 16 THE WITNESS: Correct. I don't -- didn't 17 write all the code in Android myself, so I don't 18 have that direct knowledge -- 19 BY MR. RAMSEY: 20 Q Do you know what language Google Play 21 Services is developed in? 22 MS. ANDERSON: Objection; form. 23 THE WITNESS: Not -- not with certainty, 24 no. 25</p> <p style="text-align: right;">Page 337</p>

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<p>1 BY MR. RAMSEY: 2 Q Okay. 3 In your nine and a half years of working 4 with Android, have you worked with the Java 5 language? 6 A Since I've been at Google for nine and a 7 half years now, I've not contributed any source 8 code, so I haven't written in any language. 9 Q Isn't it true that when Android was first 10 being developed, you were part of the discussions 11 about whether to use Java ME, for example? 12 MS. ANDERSON: Objection; beyond the 13 scope. 14 THE WITNESS: No. Actually, when I 15 arrived at Google in April of 2006, a lot of those 16 decisions had already been made. 17 BY MR. RAMSEY: 18 Q Did you have any -- 19 Did you have any role at all over the 20 history of Android in determining what, if any, part 21 of Java to use in Android? 22 MS. ANDERSON: Beyond the scope. 23 THE WITNESS: When you say "Java" now, 24 you're referring to what? 25</p> <p style="text-align: right;">Page 338</p>	<p>1 are here and I'm being deposed, no, I don't really 2 have knowledge about that. 3 BY MR. RAMSEY: 4 Q Are you aware of any strategies, not 5 including conversations with lawyers, that relate to 6 reactions to the current lawsuit? 7 MS. ANDERSON: Objection; form, beyond the 8 scope. 9 THE WITNESS: Have I had -- sorry, just to 10 clarify your question. You're asking me if there 11 have been conversations not with lawyers about this 12 case? 13 BY MR. RAMSEY: 14 Q Correct. 15 MS. ANDERSON: Same objections. Same -- 16 beyond the scope. 17 THE WITNESS: I have not -- I have not had 18 conversations with anyone about this case without 19 lawyers being present. 20 BY MR. RAMSEY: 21 Q Okay. 22 Did you ever interact with a company 23 called Noser? 24 MS. ANDERSON: Beyond the scope. 25 THE WITNESS: Yes, I am familiar with</p> <p style="text-align: right;">Page 340</p>
<p>1 BY MR. RAMSEY: 2 Q The Java programming platform. 3 A The Java platform. 4 MS. ANDERSON: Beyond the scope. 5 Objection; form. 6 THE WITNESS: No, I don't believe so. 7 It's not something that I've spent much time 8 thinking about. The Java platform is not something 9 I've spent much time thinking about. 10 BY MR. RAMSEY: 11 Q But it's your understanding that Android, 12 at least in part, uses portions of the Java 13 platform, correct? 14 MS. ANDERSON: Objection; form, beyond the 15 scope. 16 THE WITNESS: I don't have an 17 understanding of that, one way or another. 18 BY MR. RAMSEY: 19 Q It's not your understanding that various 20 Java packages, in other words, packages from the 21 Java platform, have been taken by Google and used in 22 Android? 23 MS. ANDERSON: Objection; form, beyond the 24 scope. 25 THE WITNESS: Aside from the fact that we</p> <p style="text-align: right;">Page 339</p>	<p>1 Noser. 2 BY MR. RAMSEY: 3 Q Isn't it true that you advised not to work 4 with -- Mr. Rubin not to work with Noser? 5 MS. ANDERSON: Beyond the scope. 6 Objection; form. 7 THE WITNESS: You're saying I advised Andy 8 to not work with Noser? 9 BY MR. RAMSEY: 10 Q Correct. 11 MS. ANDERSON: Same objections. 12 THE WITNESS: I don't remember. You know, 13 if it happened, it was in the very early days of 14 Android. Noser, I vaguely remember from probably 15 2006 or 2007, around then, so nine -- eight, nine 16 years ago. I don't remember the details of what I 17 may or may not have said to Andy. 18 BY MR. RAMSEY: 19 Q Were you involved in the creation of the 20 Android Compatibility Test Suite? 21 MS. ANDERSON: Beyond the scope. 22 THE WITNESS: Well, not directly. As I 23 pointed out earlier, I haven't written a line of 24 code since I've been at Google, so I haven't 25 directly helped build anything.</p> <p style="text-align: right;">Page 341</p>

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<p>1 BY MR. RAMSEY:</p> <p>2 Q Were you involved in the strategy</p> <p>3 regarding the Android Compatibility Test Suite?</p> <p>4 MS. ANDERSON: Beyond the scope.</p> <p>5 THE WITNESS: I don't know if I would say</p> <p>6 I was involved in the strategy either. I think the</p> <p>7 strategy was -- was already determined by that</p> <p>8 point.</p> <p>9 BY MR. RAMSEY:</p> <p>10 Q Determined by who?</p> <p>11 MS. ANDERSON: Beyond the scope.</p> <p>12 THE WITNESS: Andy Rubin.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q So what's the reason that Google does not</p> <p>15 release Google Play Services under the GPL license?</p> <p>16 MS. ANDERSON: Objection; form, beyond the</p> <p>17 scope.</p> <p>18 THE WITNESS: I don't know if that's ever</p> <p>19 been considered, to be honest. It's -- the reason</p> <p>20 is much like the rest of Google's applications and</p> <p>21 services; these are proprietary to Google, so</p> <p>22 they're not open sourced, which is -- which is a</p> <p>23 contrast to Android, obviously. Android is open</p> <p>24 sourced and available publicly. But Google-specific</p> <p>25 services and applications are typically proprietary.</p> <p style="text-align: right;">Page 342</p>	<p>1 MS. ANDERSON: Objection; form, beyond the</p> <p>2 scope.</p> <p>3 THE WITNESS: I don't know. It's not</p> <p>4 something I've thought about it. I don't</p> <p>5 necessarily know if -- if anyone is asking for that,</p> <p>6 really. So I think it's, you know, really up to</p> <p>7 each product team and each project and their unique</p> <p>8 needs to determine what is the best path forward for</p> <p>9 them.</p> <p>10 So for Android, we decided that open</p> <p>11 sourcing was the appropriate thing to do. There are</p> <p>12 other projects at Google where they made the same</p> <p>13 determination to open source their projects, and</p> <p>14 there are other projects within Google where they</p> <p>15 decided open sourcing wasn't the right thing for</p> <p>16 them to do or maybe they didn't even consider it.</p> <p>17 It's really up to each product team to decide.</p> <p>18 BY MR. RAMSEY:</p> <p>19 Q So is -- is there phone functionality that</p> <p>20 is part of the Android stack?</p> <p>21 A Is there phone functionality?</p> <p>22 Q Uh-huh.</p> <p>23 MS. ANDERSON: Objection; form, beyond the</p> <p>24 scope.</p> <p>25 THE WITNESS: There -- let's see. It</p> <p style="text-align: right;">Page 344</p>
<p>1 BY MR. RAMSEY:</p> <p>2 Q So -- so there's some code that Google</p> <p>3 develops that it would not want to release under a</p> <p>4 GPL license because it's more valuable as a business</p> <p>5 decision to make it proprietary; is that true?</p> <p>6 MS. ANDERSON: Beyond the scope.</p> <p>7 THE WITNESS: Well, there are -- there are</p> <p>8 many things that Google does -- even if you ignore</p> <p>9 Android for a second, there are many things that</p> <p>10 Google does that isn't open sourced. So it's not</p> <p>11 really about GPL, per se, as it's just more of a</p> <p>12 business decision, I think, for Google to decide</p> <p>13 whether the thing that we're working on, whatever</p> <p>14 the project is, should be open sourced or not.</p> <p>15 There are many cases, by the way, where we</p> <p>16 do open source what we do work on. So, for</p> <p>17 instance, Android is a pretty big example of a</p> <p>18 project that Google has worked on that is open</p> <p>19 sourced. There are other examples of projects that</p> <p>20 Google has embarked on that are also open sourced.</p> <p>21 But there are some apps and services -- some set of</p> <p>22 apps and services that are not open sourced either.</p> <p>23 BY MR. RAMSEY:</p> <p>24 Q Why doesn't -- why doesn't Google just</p> <p>25 open source all of the code that it creates?</p> <p style="text-align: right;">Page 343</p>	<p>1 depends on what you -- what level of technical</p> <p>2 detail you mean by "phone." So, for instance, in</p> <p>3 every telephone and cell phones, there's a radio.</p> <p>4 And there are kernel drivers that know how to talk</p> <p>5 to the radio. There are radio interface layers;</p> <p>6 typically we call them RILs, R-I-L, that know how to</p> <p>7 talk to the drivers that talk to the radio. There</p> <p>8 are APIs that know how to talk to the RIL, that know</p> <p>9 how to talk to the drivers, that know how to talk to</p> <p>10 the radio, and so on and so forth. So there's a</p> <p>11 whole stack diagram for this.</p> <p>12 So when you ask, is there phone</p> <p>13 functionality in Android, it really -- I guess it</p> <p>14 really depends on, you know, what layer you're</p> <p>15 talking about. The details will matter.</p> <p>16 BY MR. RAMSEY:</p> <p>17 Q Did Google have a phone app that it</p> <p>18 released in 2008 in the context of the Android Open</p> <p>19 Source Project?</p> <p>20 MS. ANDERSON: Beyond the scope.</p> <p>21 Objection; form.</p> <p>22 THE WITNESS: When Android was released on</p> <p>23 the first device -- this is the T-Mobile G1 in</p> <p>24 2008 -- certainly you could make phone calls with</p> <p>25 it, and I believe the name of that application was</p> <p style="text-align: right;">Page 345</p>

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<p>1 PHONE, yes.</p> <p>2 BY MR. RAMSEY:</p> <p>3 Q And subsequently after 2008, isn't it true</p> <p>4 that Google published its PHONE app on the Play</p> <p>5 Store?</p> <p>6 MS. ANDERSON: Same objections.</p> <p>7 THE WITNESS: I just read that actually</p> <p>8 recently in the press that the PHONE app -- there's</p> <p>9 a PHONE app available on the Play Store for a</p> <p>10 certain set of devices, Nexus devices specifically,</p> <p>11 I believe, on the Play Store.</p> <p>12 BY MR. RAMSEY:</p> <p>13 Q So why is it over time that Google has</p> <p>14 taken code such as Chrome Contacts, Keyboard from</p> <p>15 the Android Open Source Project and instead, created</p> <p>16 proprietary apps to replace what was formerly open</p> <p>17 sourced?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: Yeah. I don't know if I</p> <p>21 would necessarily agree with your assertion that</p> <p>22 we've sort of taken all apps -- I don't know if you</p> <p>23 said "all," but the insinuation was that we're</p> <p>24 taking all apps and -- and making them private. It</p> <p>25 really is a case-by-case determination where we feel</p> <p style="text-align: right;">Page 346</p>	<p>1 removed from that layer of the Android stack and</p> <p>2 into Google Play Services?</p> <p>3 A Anything from the Android application</p> <p>4 framework that has been moved into Google Play</p> <p>5 Services?</p> <p>6 Q Correct.</p> <p>7 A No, I can't -- I personally can't think</p> <p>8 of anything like that.</p> <p>9 Q Are you aware of a part of the Android</p> <p>10 stack known as the native libraries?</p> <p>11 MS. ANDERSON: Beyond the scope.</p> <p>12 THE WITNESS: Generally, yes.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q Are you aware of any portion of the</p> <p>15 Android stack, the native libraries portion of the</p> <p>16 Android stack, that has been moved to Google Play</p> <p>17 Services over time?</p> <p>18 A Not that I can personally think of, but</p> <p>19 I'm not sure.</p> <p>20 Q Who would know the answer to these</p> <p>21 questions of whether there are parts of the Android</p> <p>22 stack that have been moved from, for example, the</p> <p>23 native libraries application framework to Google</p> <p>24 Play Services?</p> <p>25 MS. ANDERSON: Objection; form.</p> <p style="text-align: right;">Page 348</p>
<p>1 that there are unique capabilities that we can bring</p> <p>2 to the end user experience, and if those unique</p> <p>3 capabilities depend on proprietary Google</p> <p>4 technologies, then we'll make a determination and --</p> <p>5 and possibly decide that it's time to provide that</p> <p>6 functionality in that way, which would mean that we</p> <p>7 have to make that application proprietary.</p> <p>8 At the same time, we think it's very</p> <p>9 important that Android open source has a good</p> <p>10 reference implementation for all of the basic phone</p> <p>11 functionalities, so we try our best to maintain the</p> <p>12 open source code as well so that Android always has</p> <p>13 a good reference implementation for base</p> <p>14 functionality.</p> <p>15 BY MR. RAMSEY:</p> <p>16 Q Are you aware of part of the Android stack</p> <p>17 known as the application framework?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: Yes, I generally think I</p> <p>21 know what you're referring to when you say</p> <p>22 "application framework."</p> <p>23 BY MR. RAMSEY:</p> <p>24 Q Are you aware of any functionality within</p> <p>25 the Android application framework that has been</p> <p style="text-align: right;">Page 347</p>	<p>1 THE WITNESS: I think someone on the</p> <p>2 Google Play Services team would know that, an</p> <p>3 engineer or an engineering manager or leader.</p> <p>4 BY MR. RAMSEY:</p> <p>5 Q Can you give me a name?</p> <p>6 A Sure.</p> <p>7 Q And who would that be?</p> <p>8 A Oh, Jeff Hamilton.</p> <p>9 Q Did you talk with Mr. Hamilton in</p> <p>10 preparation for today's deposition about Google Play</p> <p>11 Services?</p> <p>12 A No, I did not.</p> <p>13 Q Did you talk with actually anybody? Did</p> <p>14 you go interview anybody at Google to educate</p> <p>15 yourself about any of the topics that have been</p> <p>16 discussed today?</p> <p>17 MS. ANDERSON: Objection; form.</p> <p>18 THE WITNESS: No. I met with counsel to</p> <p>19 understand --</p> <p>20 MS. ANDERSON: Just caution the witness.</p> <p>21 It's okay to say "I met with counsel."</p> <p>22 THE WITNESS: Sorry.</p> <p>23 MS. ANDERSON: It's late, I know.</p> <p>24 THE WITNESS: I met with counsel. Aside</p> <p>25 from that, you know, I have personally been working</p> <p style="text-align: right;">Page 349</p>

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<p>1 on Android for nine and a half years. That predates 2 the original launch of Android, so I have a lot of 3 sort of knowledge and history about Android -- 4 BY MR. RAMSEY: 5 Q But you did not -- 6 A Sorry, just to finish. 7 -- which I believe is why I was chosen 8 to come here just given the history that I've had 9 with this project. 10 Q But we've talked about a number of 11 technical issues today regarding, for example, the 12 application framework, the native libraries, the 13 core libraries that you've been unable to answer. 14 Did you do anything to educate yourself as 15 to those technical topics? 16 MS. ANDERSON: Objection; form and move to 17 strike the prefatory statement. 18 THE WITNESS: There was no way for me to 19 know beforehand what specific questions you'd be 20 asking me about. And given the broad nature of what 21 we're talking about here and just the vast amounts 22 of information there is about Android in my brain, 23 it just wasn't possible for me to go interview 24 everyone, everything about Android in preparation 25 for whatever questions you may ask me.</p> <p style="text-align: right;">Page 350</p>	<p>1 topic multiple times. I do remember in the very 2 early days of Android, I think it was HTC because 3 they were the first Android manufacturer -- 4 manufacturer who adopted Android, I do remember 5 vaguely them asking me about Java. I mean, this 6 was so early in the development of Android that no 7 one really knew anything about Android. We were 8 still figuring it out ourselves. So I have a vague 9 recollection of talking to them about Java, but I 10 don't have specific memories about -- 11 Q What do you remember about your 12 conversation with HTC about Java in the early days 13 of Android? 14 A I think they just wanted to be educated 15 on -- on what is Android and explaining to them 16 that we use the Java language but that we have our 17 own framework and our own platform. I think that 18 was basically it. It was probably a very quick 19 conversation. Certainly what I can point out is, 20 you know, in my nine and a half years at Google 21 working on Android, the topic of Java or the Java 22 platform is not something that really comes -- 23 comes up at all. 24 You know, we talk a lot about how to 25 satisfy our customers, how to build great devices,</p> <p style="text-align: right;">Page 352</p>
<p>1 MS. ANDERSON: Can I get the time on the 2 record, Mr. Videographer? 3 THE VIDEOGRAPHER: Six hours and 46 4 minutes on the record, Counsel. 5 MS. ANDERSON: Okay. 6 BY MR. RAMSEY: 7 Q Did you talk with anyone, putting aside 8 lawyers, about any of the topics that you're 9 supposed to be testifying about today? 10 A Specifically for -- in preparation of 11 today, no. But I will say I've talked to many, 12 many people, thousands of people throughout my nine 13 and a half years of working on Android, which I 14 believe is what prepared me to, you know, be 15 someone that you can talk to today. 16 Q Have you ever had conversations about Java 17 in relation to Android at any point in your nine and 18 a half years of history with Android? 19 MS. ANDERSON: Beyond the scope. 20 THE WITNESS: Have I ever talked about 21 Java? 22 BY MR. RAMSEY: 23 Q (Nods head.) 24 A That's very broad. Certainly the Java 25 language has come up. This lawsuit has been a</p> <p style="text-align: right;">Page 351</p>	<p>1 great operating systems, great functionalities. 2 Those are the things that we talk about. We talk 3 about Lollipop, we talk about Marshmallow, the 4 next version of the operating system. We don't 5 really talk about Java. 6 Q But you're aware that -- that Java 7 developers would be attracted to developing for 8 Android, correct? 9 MS. ANDERSON: Beyond the scope. 10 THE WITNESS: Our goal is to make all 11 developers attracted to Android. You know, if 12 you -- if you look at the development landscape out 13 there, there are many developers who've written 14 applications in various languages, C, C++, Objective 15 C. We want to make sure that we have a system and 16 an ecosystem and a business environment for all 17 developers to be successful in Android. 18 BY MR. RAMSEY: 19 Q But at the outset when Android was first 20 developed, there was a decision made to use portions 21 of the Java platform, in particular, right? 22 MS. ANDERSON: Objection; beyond the 23 scope, form. 24 THE WITNESS: I don't know. By the time I 25 joined in April of 2006, a lot of those foundational</p> <p style="text-align: right;">Page 353</p>

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<p>1 decisions had been made.</p> <p>2 BY MR. RAMSEY:</p> <p>3 Q Do you ever have any interaction with the</p> <p>4 Android developer community?</p> <p>5 MS. ANDERSON: Same objections.</p> <p>6 THE WITNESS: Very minimal. Actually,</p> <p>7 unfortunately, I -- I wish I could do more of that.</p> <p>8 My interactions have been mostly focused on the</p> <p>9 industry side, so by "industry," I'm referring to</p> <p>10 manufacturers and operators. I haven't had too many</p> <p>11 dealings with application developers, unfortunately.</p> <p>12 BY MR. RAMSEY:</p> <p>13 Q Do you ever have conversations with the</p> <p>14 phone manufacturers about what developers want or</p> <p>15 expect?</p> <p>16 MS. ANDERSON: Beyond the scope, form.</p> <p>17 THE WITNESS: Not too much. I think the</p> <p>18 conversations with manufacturers are mostly focused</p> <p>19 around the work that they're doing, which is</p> <p>20 building hardware, so we talk a lot about, you know,</p> <p>21 how good is your camera or how big is your battery</p> <p>22 or, you know, what networks does your device work</p> <p>23 on. You know, topics like that is something we talk</p> <p>24 a lot about, but we don't really talk about app</p> <p>25 developers too much. Sometimes we do, but more in</p> <p style="text-align: right;">Page 354</p>	<p>1 small portion he's covering. It's not a big part of</p> <p>2 the topics, but I wanted to remind you that his</p> <p>3 seven hours is almost over.</p> <p>4 MR. RAMSEY: So I think we attempted to --</p> <p>5 Ms. Hurst attempted to address Topic 7, but the</p> <p>6 witness was unable or unwilling to testify about</p> <p>7 that.</p> <p>8 MS. ANDERSON: Nobody touched on Topic 7.</p> <p>9 MS. HURST: Keep going. If you've got</p> <p>10 more on Topic 3, finish.</p> <p>11 MR. RAMSEY: Yeah, so I just --</p> <p>12 BY MR. RAMSEY:</p> <p>13 Q So when the -- the phone manufacturers</p> <p>14 engage with you about application development, are</p> <p>15 they concerned about the types of resources they</p> <p>16 have to invest in the process of learning how to</p> <p>17 develop?</p> <p>18 MS. ANDERSON: Objection; form, beyond the</p> <p>19 scope.</p> <p>20 THE WITNESS: Well, I was trying to give</p> <p>21 you two examples. The first one -- example I was</p> <p>22 giving you was about material design. In that case,</p> <p>23 actually they were excited because they -- they</p> <p>24 thought material design, first of all, was a very</p> <p>25 good design direction, and they also saw it as a way</p> <p style="text-align: right;">Page 356</p>
<p>1 the context of us educating the manufacturers as an</p> <p>2 app developer, also because a lot of manufacturers</p> <p>3 also have teams of app developers who build their</p> <p>4 own set of applications.</p> <p>5 So sometimes we -- and when I say "we," I</p> <p>6 mean, we have a developer relations team. They --</p> <p>7 you know, I encourage them to reach out and talk to</p> <p>8 those manufacturer teams.</p> <p>9 BY MR. RAMSEY:</p> <p>10 Q What types of questions do the</p> <p>11 manufacturers have about app development?</p> <p>12 MS. ANDERSON: Objection; beyond the</p> <p>13 scope, form.</p> <p>14 THE WITNESS: Well, one -- I'll give you</p> <p>15 two examples. One example is when we released with</p> <p>16 Android Lollipop material design, we had a lot of</p> <p>17 questions from manufacturers around the best way to</p> <p>18 support material, how to -- how to support material</p> <p>19 design, you know, best practices, design guidelines,</p> <p>20 implementation guidelines, so on. So we've had many</p> <p>21 conversations like that with manufacturers.</p> <p>22 MS. ANDERSON: Sorry, I don't want to</p> <p>23 interrupt, Counsel, but I wanted to remind you that</p> <p>24 the witness has seven hours almost over, and I don't</p> <p>25 think you guys have touched on your Topic 7, the</p> <p style="text-align: right;">Page 355</p>	<p>1 for them to conserve their resources because they</p> <p>2 wouldn't have to reinvent a new design language of</p> <p>3 their own, so they saw it as a savings, and so</p> <p>4 that's -- that's the material design example.</p> <p>5 The other example I would give is when we</p> <p>6 come out with new form factors, for instance, when</p> <p>7 we launched Android Wear, it was important for us to</p> <p>8 make sure that these phone manufacturers, their</p> <p>9 phone -- their apps that came with their phones also</p> <p>10 properly supported Android Wear, so we did some</p> <p>11 outreach to them on those topics.</p> <p>12 BY MR. RAMSEY:</p> <p>13 Q So did the application developers for the</p> <p>14 phone manufacturers have to learn, for example, the</p> <p>15 new APIs associated with something like Android Wear</p> <p>16 or materials; is that fair?</p> <p>17 MS. ANDERSON: Objection; form, beyond the</p> <p>18 scope.</p> <p>19 THE WITNESS: Any time there are new APIs</p> <p>20 that we add to Android, like the 3,000 new APIs we</p> <p>21 added to L, everyone, every app developer, whether</p> <p>22 they're from phone manufacturers or a kid in Topica,</p> <p>23 Kansas, you know, they have to -- they have to learn</p> <p>24 it because it's new to them.</p> <p>25 Q Does that take some time for application</p> <p style="text-align: right;">Page 357</p>

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<p>1 developers across the communities that you've just 2 talked about to learn APIs?</p> <p>3 MS. ANDERSON: Objection; form, beyond the 4 scope.</p> <p>5 THE WITNESS: I think it depends on the 6 competence level of these developers and also the 7 interest level that they have in adopting these new 8 APIs. So I don't know if there's a fixed number, 9 per se, but sure, it's just like learning anything 10 new. Everyone has their own pace and their own 11 desire level, level of desire, to, you know, decide 12 how deep they want to go.</p> <p>13 BY MR. RAMSEY:</p> <p>14 Q So other than -- 15 I'm going to come back to fragmentation. 16 Other than version fragmentation, does 17 Google Play Services help mitigate any other type of 18 fragmentation within Android?</p> <p>19 MS. ANDERSON: Objection; form.</p> <p>20 THE WITNESS: Just to clarify, the version 21 fragmentation, I didn't say Google Play Services 22 would solve version fragmentation. I said it 23 handles a small sliver of that problem, just for the 24 portions that are included in Google Play Services. 25 Really, in relative terms, it's a tiny, little</p> <p style="text-align: right;">Page 358</p>	<p>1 is why the pie chart looks fragmented, and 2 hence -- hence, the version fragmentation problem.</p> <p>3 Q So, in general, because of 4 fragmentation -- 5 Is fragmentation across versions something 6 that Google is trying to prevent going forward?</p> <p>7 MS. ANDERSON: Objection; form, beyond the 8 scope.</p> <p>9 THE WITNESS: I don't know if I would say 10 "prevent," but it's certainly something about -- 11 about the Android platform that we're not satisfied 12 with. We think that something that we can 13 certainly, as an industry, as a community, an 14 Android community, do better.</p> <p>15 So we've talked to many manufacturers 16 about encouraging them to update early and often. 17 We've talked to operators about encouraging their 18 manufacturers to do the same.</p> <p>19 So a lot of conversations on this topic, 20 but so far, unfortunately, not enough progress.</p> <p>21 MR. RAMSEY: Okay. Just for the record, 22 I'm going to pass the mike and the questions back to 23 Ms. Hurst for a moment.</p> <p>24 MS. HURST: Just state that I've got one 25 more document to mark on Topic 2; Exhibit 5016 is</p> <p style="text-align: right;">Page 360</p>
<p>1 portion of that at the overall version fragmentation 2 problem.</p> <p>3 But I can't think of any other form of 4 fragmentation that Google Play Services would 5 actually help with.</p> <p>6 BY MR. RAMSEY:</p> <p>7 Q What do you mean by the "overall version 8 fragmentation problem"?</p> <p>9 A Well, this is something that's documented 10 and talked about a lot. We have -- another way to 11 phrase it is the -- the device upgrade problem. In 12 other words, many people complain -- press and 13 consumers complain that their devices don't get 14 updated to the latest version of operating 15 system -- to the latest version of Android, and so, 16 in fact, we have a pie chart that we update, I 17 think, monthly on our developer site that shows the 18 current mix of Android devices out in the wild and 19 sort of a breakdown of what percentage of devices 20 are on a particular operating system.</p> <p>21 And -- and certainly from a Android 22 platform provider's perspective, we want that pie 23 chart to be as -- as overwhelmingly on the latest 24 version of the OS as possible, but unfortunately 25 many devices are not updated early or often, which</p> <p style="text-align: right;">Page 359</p>	<p>1 GOOGLE-34-00089029 through -89050. Just a second. 2 Let me just find if we have a not two-sided version 3 of this. Make it easier for the court reporter, I 4 think.</p> <p>5 (Deposition Exhibit 5016 marked 6 for identification.)</p> <p>7 FURTHER EXAMINATION</p> <p>8 BY MS. HURST:</p> <p>9 Q Mr. Lockheimer, on -- you're welcome to 10 review as much of this document as you'd like.</p> <p>11 On the page that has the Bates number 12 ending -42042 --</p> <p>13 A What's the Bates number?</p> <p>14 Q There's a legend along the side there, and 15 you'll see at the very end of that footer, there's a 16 series of numbers.</p> <p>17 A Okay. What was the number that you said?</p> <p>18 Q -42, please.</p> <p>19 A Ending in -42, okay. This one?</p> <p>20 Q That's right.</p> <p>21 So there's -- you see there's like a -- 22 kind of a four-point part chart, right?</p> <p>23 A Okay.</p> <p>24 Q And it describes the Android strategy over 25 a period of time, correct?</p> <p style="text-align: right;">Page 361</p>


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<p>1 MS. ANDERSON: Objection; form.</p> <p>2 THE WITNESS: Well, first of all, these</p> <p>3 look like meeting notes or a review -- quarterly</p> <p>4 review presentation from July of 2010. On the very</p> <p>5 first page, the attendees are listed. I am not one</p> <p>6 of those attendees. So, first of all, I don't</p> <p>7 recognize these slides, and -- and the notes show</p> <p>8 that I was not present or presenting even. So I'm</p> <p>9 seeing these for the first time.</p> <p>10 Your question was?</p> <p>11 BY MS. HURST:</p> <p>12 Q I'm going to move to strike all of that as</p> <p>13 nonresponsive, because my question was: This page</p> <p>14 of Exhibit 5016 ending in -042 describes the Android</p> <p>15 strategy over a period of time, true?</p> <p>16 MS. ANDERSON: Objection; form.</p> <p>17 THE WITNESS: It seems to show -- well,</p> <p>18 based on the date of these slides, 2010 -- I've</p> <p>19 never seen these slides before, but based on the</p> <p>20 date on these slides from Q2 of 2010, it seems to</p> <p>21 show a little bit of history and a little bit of</p> <p>22 sort of forward-looking phases.</p> <p>23 BY MS. HURST:</p> <p>24 Q Phases of strategy, Android strategy,</p> <p>25 right?</p> <p style="text-align: right;">Page 362</p>	<p>1 So this strategy -- Android strategy slide</p> <p>2 also covers the period of time from 2013 and beyond,</p> <p>3 right?</p> <p>4 MS. ANDERSON: Objection; form.</p> <p>5 THE WITNESS: Well, there's a box on the</p> <p>6 far right that says "2013+."</p> <p>7 BY MS. HURST:</p> <p>8 Q Right.</p> <p>9 And that's where we are today, right?</p> <p>10 MS. ANDERSON: Objection; form.</p> <p>11 THE WITNESS: We are five years after this</p> <p>12 document was presented. Actually, more than five</p> <p>13 years. Almost five and a half years from when this</p> <p>14 document was presented, yes.</p> <p>15 MS. HURST: Move to strike as</p> <p>16 nonresponsive.</p> <p>17 MS. ANDERSON: Opposed.</p> <p>18 BY MS. HURST:</p> <p>19 Q Does the Phase 4 strategy presented on</p> <p>20 Exhibit 5016, page ending -482, called "Change the</p> <p>21 Rules/Scale," indicate that that's a strategy for</p> <p>22 the time period beginning and after 2013?</p> <p>23 MS. ANDERSON: Objection; form.</p> <p>24 THE WITNESS: It says -- given that the</p> <p>25 checkmark and the header says "Focused on Phase 2,"</p> <p style="text-align: right;">Page 364</p>
<p>1 A Well, the title of this slide says</p> <p>2 "Android Strategy Focused on Phase 2, Moving to</p> <p>3 Phase 3."</p> <p>4 Q Right.</p> <p>5 And the slide has four phases that it</p> <p>6 shows, right?</p> <p>7 A Well, it shows four boxes, yes, with four</p> <p>8 different sort of time periods.</p> <p>9 Q And the title of this slide calls it</p> <p>10 "Phases," right?</p> <p>11 A It says "Android Strategy Focused on</p> <p>12 Phase 2, Moving to Phase 3."</p> <p>13 Q Right.</p> <p>14 And that's where you were in the strategy</p> <p>15 in 2010, right?</p> <p>16 MS. ANDERSON: Objection; form.</p> <p>17 THE WITNESS: I don't know if they were --</p> <p>18 again, I've never seen these slides before, so I</p> <p>19 don't know what the narrative was when they were</p> <p>20 talking about this. So I can only tell you from</p> <p>21 what I can read on the slides, it says "Focused on</p> <p>22 Phase 2," so it sounds like they were focused on</p> <p>23 Phase 2.</p> <p>24 BY MS. HURST:</p> <p>25 Q All right.</p> <p style="text-align: right;">Page 363</p>	<p>1 and the fact that the title of the presentation says</p> <p>2 "Q2, 2010," I'm assuming this slide was written in</p> <p>3 2010. So the fourth box there that says "2013+" is</p> <p>4 talking about something that's three years, four</p> <p>5 years in the future from when this slide was</p> <p>6 written, yes.</p> <p>7 MS. ANDERSON: What's the time on the</p> <p>8 record?</p> <p>9 THE VIDEOGRAPHER: Time on the record is</p> <p>10 seven hours and five minutes.</p> <p>11 BY MS. HURST:</p> <p>12 Q So this is a strategy --</p> <p>13 MS. ANDERSON: Counsel, we're past the</p> <p>14 seven hours. I gave you five more minutes and we're</p> <p>15 done with this witness' seven hours. It's been a</p> <p>16 long day for him.</p> <p>17 MS. HURST: The witness -- you indicated</p> <p>18 earlier today the witness did not need to leave</p> <p>19 until 6:30.</p> <p>20 MS. ANDERSON: Correct.</p> <p>21 MS. HURST: It is not yet 6:30. There is</p> <p>22 no seven-hour limit on a pure 30(b)(6) witness.</p> <p>23 We're not deposing this witness in his personal</p> <p>24 capacity, as you pointed out this morning. The</p> <p>25 deposition of Google is not limited to seven hours.</p> <p style="text-align: right;">Page 365</p>

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<p>1 MS. ANDERSON: Well, I don't agree with 2 you, and I've already discussed this with you in the 3 past. 4 Thank you very much. 5 MS. HURST: That was a different issue. 6 MS. ANDERSON: Thank you. 7 MS. HURST: We have not discussed -- I 8 have more questions for this witness about this 9 document, and I intend to continue until 6:30, which 10 is when you told us the witness would leave. 11 MS. ANDERSON: Well, we're done for the 12 day. The witness is only here for seven hours, and 13 we pushed really hard to make sure you got all your 14 seven hours and a few minutes more. 15 So thank you. 16 MS. HURST: Are you refusing to answer 17 questions until 6:30 this evening with the 18 understanding that we will move to compel you to 19 return and finish this deposition? 20 MS. ANDERSON: So we're done for the day. 21 And thank you very much. You can -- 22 MS. HURST: Are you refusing to answer 23 additional questions, Mr. Lockheimer? 24 MS. ANDERSON: You don't need to harass 25 the witness any longer.</p> <p style="text-align: right;">Page 366</p>	<p>1 off the record. So the Defendant has unilaterally 2 terminated the deposition by walking out of the room 3 before it's completed. 4 THE VIDEOGRAPHER: This is the end of 5 today's deposition of Mr. Hiroshi Lockheimer. We 6 are off the record at 6:15 p.m. The total number of 7 media used was four and will be retained by 8 Veritext. 9 Thank you. 10 (Time noted: 6:15 p.m.) 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p> <p style="text-align: right;">Page 368</p>
<p>1 MS. HURST: I'm not harassing the witness. 2 MS. ANDERSON: I was very clear to you 3 that we were going to be here for seven hours, and 4 we pushed to make sure you got every minute of that 5 in today. 6 MS. HURST: That is not true. You said 7 the witness was available until 6:30. 8 MS. ANDERSON: Yes, but that doesn't 9 change the fact that you have seven hours with this 10 witness. 11 MS. HURST: There is no seven-hour rule in 12 30(b)(6). 13 MS. ANDERSON: I suspect that you may be 14 mistaken about that, but since I invited you to meet 15 and confer with me about this last time, and you did 16 not, perhaps you -- 17 MS. HURST: What are you talking about? I 18 didn't confer with you about it last time? Of 19 course, I did. 20 MS. ANDERSON: No, actually, you did not. 21 MS. HURST: In fact, I objected last time 22 and indicated we would move to compel then as well. 23 MS. ANDERSON: Thank you, Counsel. We can 24 head out. 25 MS. HURST: Well, we have not agreed to go</p> <p style="text-align: right;">Page 367</p>	<p>1 2 3 4 5 6 7 8 9 I, HIROSHI LOCKHEIMER, do hereby declare under penalty 10 of perjury that I have read the foregoing transcript; 11 that I have made any corrections as appear noted, in 12 ink, initialed by me; that my testimony as contained 13 herein, as corrected, is true and correct. 14 EXECUTED this _____ day of _____, 2015, at 15 _____. 16 (city) (State) 17 18 19 20 21 22 23 24 25</p> <p style="text-align: center;">_____ HIROSHI LOCKHEIMER</p> <p style="text-align: right;">Page 369</p>

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<p>1 I, the undersigned, a Certified Shorthand 2 Reporter of the State of California, do hereby certify: 3 That the foregoing proceedings were taken 4 before me at the time and place herein set forth; that 5 any witnesses in the foregoing proceedings, prior to 6 testifying, were administered an oath; that a record of 7 the proceedings was made by me using machine shorthand 8 which was thereafter transcribed under my direction; 9 that the foregoing transcript is a true record of the 10 testimony given. 11 Further, that the foregoing pertains to the 12 original transcript of a deposition in a Federal Case, 13 before completion of the proceedings, a review of the 14 transcript [X] was [] was not requested. 15 I further certify I am neither financially 16 interested in the action nor a relative or employee of 17 any attorney or any party to this action. 18 IN WITNESS WHEREOF, I have this date 19 subscribed my name. 20 21 Dated: 12/10/2015 22 23 24  KELLI COMBS 25 CSR No. 7705</p>	

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate.

The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF SEPTEMBER 1, 2014. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.